

PC POWER

EUROPE'S BEST PC LEISURE GUIDE

MARCH 1995 • ISSUE 15 • £4.99

TOTAL PC!

Everything you
ever wanted to
know about
upgrading!

Buying and
fitting a
CD-ROM drive

 CD EDITION

HERETIC
DARK FORCES
CYBERIA
FULL THROTTLE
KA-50 HOKUM
SIM TOWER
URBAN RENEWAL
IRON ASSAULT
WINGS OF GLORY
FLIGHT UNLIMITED
PREMIER MANAGER 3
ALONE IN THE DARK 3
DEFENDER OF THE EMPIRE



NO COVERDISK? TELL YOUR
NEWSAGENT!

See
page
24!

WIN A
SATELLITE
TV SYSTEM!



03

9 771352 789011



Demolition Man™
Virgin Interactive Entertainment



Gridders™
Studio 3DO/Tetragon



Another World™
Interplay Productions



Total Eclipse™
Crystal Dynamics



Star Control II™
Crystal Dynamics



Shock Wave: Invasion Earth™
Electronic Arts



Road Rash™
Electronic Arts



Off-World Interceptor™
Crystal Dynamics



FIFA International Soccer™
Electronic Arts



Super Wing Commander™
Origin/Electronic Arts



PaTaank™
Crystal Dynamics



Dragon's Lair™
Elite



The Lost Files of Sherlock Holmes™
Electronic Arts



Escape from Monster Manor™
Electronic Arts



John Madden Football™
Electronic Arts



The Horde™
Crystal Dynamics



Sewer Shark™
Virgin Interactive Entertainment/
Digital Pictures



Night Trap
Virgin Interactive Entertainment/
Digital Pictures



Powers Kingdom™
Panasonic Software



Mega Race™
Mindscape International



Soccer Kid™
Krisalis Software



Pebble Beach Golf Links®
Panasonic Software



The Incredible Machine™
Sierra On-line



Sesame Street® Numbers
Electronic Arts

Introducing the 3DO system



Theme Park™
Bullfrog/Electronic Arts



**Super Street Fighter
II Turbo™**
Panasonic Software



GEX™
Crystal Dynamics



**Club 3DO:
Station Invasion™**
Studio 3DO



Samurai Showdown™
Crystal Dynamics



Virtuoso™
Elite Systems



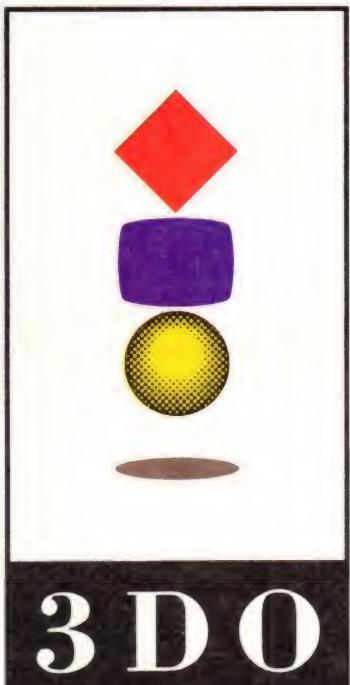
Wing Commander III™
Origin/Electronic Arts



Need for Speed™
Electronic Arts



Flashback™
US Gold



Corpse Killer™
Acclaim/Digital Pictures



World Cup Golf™
US Gold

No limits



**Shock Wave:
Operation Jumpgate™**
Electronic Arts



Twisted™
Electronic Arts



Way of the Warrior™
Interplay Productions



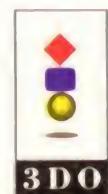
Kingdom™
Interplay Productions



Supreme Warrior™
Acclaim/Digital Pictures

Check it out at a store near you

Availability is not guaranteed and is based on information at the time of going to press. But don't believe us, check it out at your local Game Limited, selected HMV Stores, Virgin Megastores, and all good independent dealers. Call 0800 444220 for your local dealer.



Conte

TOTAL PC!

Probably more than you ever wanted to know about the business of upgrading your PC!

Page 26



You may have noticed that all of the phone numbers in PC POWER have changed.

Basically, every number in the country is being expanded by BT to include a one after the initial zero in the dialling code. The PC POWER number, for example, becomes (01202) 299900.

The new codes are effective now, but become final on 16 April at 1am. From then on, the old codes will not work.

As we are a forward thinking magazine, we thought it better to convert now and get used to the idea.

nts

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On this month's coverdisks...


STAR TREK THE NEXT GENERATION

Interactive demo of "A Final Unity"

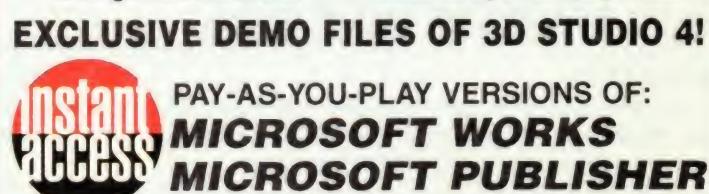

IRON ASSAULT

A terrific playable demo of Virgin's massive metal mech-warrior shoot-'em-up.



DESCENT

Be the first to play this hot new Doom-style flight sim set underground. A stunner!



HERETIC

Doom with crossbows! Heretic is a fully playable one level demo and you can play it now.

EXCLUSIVE DEMO FILES OF 3D STUDIO 4!



PAY-AS-YOU-PLAY VERSIONS OF:
MICROSOFT WORKS
MICROSOFT PUBLISHER

SUPERFROG

Play Team 17's latest amphibian platform romp only with PC POWER.

IMAGE COMMANDER

Create albums of your favourite pictures, and view them at the click of a mouse.



Coverdisks

If you have any problems with your coverdisks, call Jon Pyle on (01202) 299900.



Superfrog

INSTALLATION

To install *Superfrog*, put the cover disk in your floppy drive, then change to that drive letter (eg "A:"). Now type INSTFROG <PATH>, where <PATH> is the drive and directory to install the files to (eg INSTIC C:\FROG). If the directory specified in <PATH> does not exist, then it will be created.

WHAT'S IT ALL ABOUT?

When an ordinary frog's girlfriend is kidnapped, he gets mad! *Superfrog* was once that ordinary frog; now with the help of some steroids and a flashy red cape, he is out for revenge. You must guide this muscle-bound amphibian across a demonstration level of this long-awaited platformer. This first level demo includes a number of secret rooms, extra lives and hidden bonuses which can be found. Try to find them all and beat the PC POWER high score of 28,650 points (set by Jon).

CONTROLS

Cursor Left, Right, Up, Down to move. Alt – Jump.



Image Commander

INSTALLATION

To install *Image Commander*, put the cover disk in your floppy drive, then change to that drive letter (eg "A:"). Now type INSTIC <PATH> where <PATH> is the drive and directory to install the files to (eg INSTIC C:\IC). If the directory specified in <PATH> does not exist, then it will be created.

Once the installation has taken place, the package must be installed into Windows. This is done by selecting FILE from the program manager menu bar, then choosing RUN. Now use the browse option to find the directory where you placed the installation files and select SETUPEXE.

WHAT'S IT ALL ABOUT?

Image Commander is a shareware utility which allows OS/2 or Windows Bitmap (BMP), Windows clipboard (CLP), Dr.Halo (CUT), OS/2 or Windows Device Independent Bitmap (DIB), Compuserve (GIF), Amiga (IFF), GEM Paint (IMG), JPEG JFIF (JIF), JPEG (JPG), Deluxe Paint (LBM), MacPaint (MAC), Microsoft Paint (MSP), Zsoft Paintbrush (PCX), PC Paint (PIC), Sun Raster Images (RAS), Truevision Targa (TGA), Tagged Image File Format (TIF), Windows Metafile (WMF) and Wordperfect (WPG) images to be previewed in albums of thumbnail-sized pictures. Each of these thumbnails can then be selected to display that image at full size.

Slideshows of your favourite images can be created from each album, with each slide displayed in your own pre-defined sequence. This sequence can then be looped or repeated a certain number of times. The most useful task performed by *Image Commander* is image conversion. Any of the supported picture types can be converted to any other picture type using the Convert option.



Heretic

RAVEN/ID SOFTWARE

INSTALLATION

To install the shareware demo version of *Heretic*, follow the prompts on the PC POWER menu, then exit the menu system and type SETUP to configure the game to your sound card. Now save the settings and type HERETIC to run it.



WHAT'S IT ALL ABOUT?

Remember *Doom*? You do? Well, *Heretic* is *Doom* for the Middle Ages. Instead of shotguns and plasma rifles you get crossbows and magic jewels. The graphics are bright and detailed, but the best thing about this completely playable three level demo is that you get to frag everything you want, especially if you use the cheats on page 76!

CONTROLS

F1 – Help. F2 – Save. F3 – Load. F4 – Volume. F6 – Quick Save. Tab – Map
 F7 – End Game. F8 – Messages. Enter – Select/use. F9 – Quick Load. F10 – Quit
 1 – Staff/Gauntlets. 2 – Elven Wand. 3 – Ethereal Crossbow.
 4 – Dragon Claw. 5 – Hell Staff. 6 – Phoenix Rod
Arrow Keys – Forward, Back, Left, Right
Shift+Arrow Keys – Run

3D Studio 4

INSTALLATION

To run the 3DS4 demonstration slideshow, choose Run 3DS Demo from the PC POWER cover disk menu, then sit back and watch as the collection of rendered images is displayed.



US Navy Fighters

ELECTRONIC ARTS



INSTALLATION

To install the *US Navy Fighters* demo, follow the prompts on the PC POWER menu, then exit the menu and type USNF to play. Sound set-up is performed as part of the installation.

WHAT'S IT ALL ABOUT?

It's a damn good modern day flight sim and features some of the best graphics and missions on the PC today. You get authenticity by the bucket-load and highly detailed texture mapped objects that simply won't run properly on anything less than a Pentium.

CONTROLS

Arrows – Move control stick. **1-6** – Thrust. **F** – Flaps. **B** – Speed brake. **G** – Gear. **H** – Arrester hook. **Shift E** – Eject. **A** – Autopilot. **N** – Nav/Weapon modes. **W** – Next waypoint. **Shift W** – Previous waypoint. **D** – Damage report. **R** – Radar on/off. **I** – Select infra-red seeker. **M** – Select HARM seeker. **Space** – Fire weapon. **Tab** – Fire internal gun. **Ins** – Drop chaff. **Del** – Drop flare. **J** – Jammers (radar and infra-red). **F1** – Forward Cockpit view. **F2** – Rear cockpit view. **F3** – Upward view 45 degrees. **F4** – Cockpit, tracking target. **F5** – Incoming missile. **F6** – Wingman. **F7** – Target. **F8** – Target to player. **F9** – Fly-by. **F10** – External view. **F12** – Missile view

Iron Assault

VIRGIN



INSTALLATION

To install the Iron Assault demo, follow the prompts on the PC POWER menu, then exit the menu and type IRON to play. Sound set-up is performed as part of the installation.

WHAT'S IT ALL ABOUT?

Another large robot game, this has you controlling a special attack droid on various missions to defeat the enemy. See the review on page 60 for more information.

CONTROLS

Mouse for directions – hold down **button** to slide in required direction.
7 – Rotate head left. **9** – Rotate head right. **-** – Crosshair up. **+** – Crosshair down.
Space – Fire. **Enter** – Lock target. **Backspace** – Change weapon.
F1 – Radar. **F2** – Map/scanner. **F3** – Status. **F4** – Missile locked enemy status.
F5 – Countermeasures. **F6** – Squad camera views (with **1**, **2** and **3**).
F7 – Bay control. **F8** – Mission objectives. **F9** – Rear view. **F10** – End mission.
U – Upper and lower cockpits. **TAB** – Change monitor. **M** – Map.



Descent

INTERPLAY



INSTALLATION

To install *Descent*, follow the prompts on the PC POWER menu. Then exit the menu and type DESCENT to play, or SETUP to configure sound hardware.

WHAT'S IT ALL ABOUT?

You must destroy all the robots in a huge complex that have gone mad and threaten the planet. For a full look at this game, turn to the Shareware news on page 104.

Arrow keys – rotation. **A** – Forward. **Z** – Reverse. **S** – Faster. **X** – Slower.
Q or **numeric pad 7** – Left. **E** or **numeric pad 9** – Right. **R** – Rear view
TAB – Automap. **Ctrl** – Fire primary. **Space** – Fire secondary. **B** – Proximity bomb.
Primary weapons: **1** – lasers. **2** – vulcan cannon. **3** – spreadfire cannon.
4 – plasma cannon. Secondary weapons: **6** – Concussion missile.
7 – Homing missile. **8** – Proximity bomb. **9** – Smart missile. **0** – Mega missile

BreakThru!

MICROPROSE

INSTALLATION

To install the *BreakThru!* for Windows demo, follow the prompts on the PC POWER menu, then start Windows. When Windows is running, use the Program Manager and select C:\BRKDEMO\BRKDEMO.EXE.

BreakThru! is a hybrid game, a mix of *Tetris* and *Break-out* with a few extra twists. Try to remove all of the coloured blocks by clicking on one block when a block of the same colour lies adjacent to that block. When in trouble, set off bombs to remove groups of blocks at once, and watch the falling blocks from below which can help or hinder your plans.

CONTROLS

Mouse directions, button to delete a block.



Battledrome

SIERRA

INSTALLATION

To install *Battledrome*, follow the prompts on the PC POWER menu. Then exit the menu and type BD to play.

WHAT'S IT ALL ABOUT?

Battledrome is the latest big robot game to hit the PC and this demo pits you against enemy droids in a wire-frame arena. Use all your weapons to blast the crap out of anything vaguely mechanoid and live to see another day.

CONTROLS

F1 – Cockpit. F2-F5 – Probes. A – Attach Probe on/off. Alt+N – Next Probe. Tab – Toggle control.

HERC CONTROL

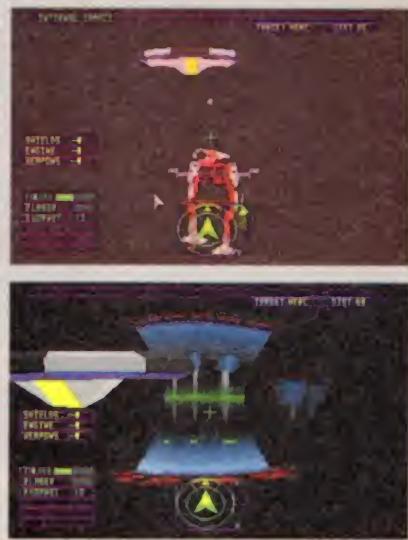
Insert or Button 2 – Change Between HERC/Turret. Up/Down Arrows – Forward/Reverse.

Arrows – Left/Right. [– HERC Left.] – HERC Right. I – Turret Up. M – Turret Down.

J – Turret Left. K – Turret Right. Backspace – Turret Centred. + – Accelerate. - – Brake.

/ – Reverse. Space – Fire. U – HUD on/off. E – Energy allocation. Z – Balance energy.

W – Weapons display. T – Target info. B – Status. P – Probe list. D – Damage. G – Messages.



Battle for the Ashes

AUDIOGENIC

**INSTALLATION**

To install *Battle for the Ashes*, follow the prompts on the PC POWER menu. When installation is complete, exit the menu system and type CRICKET to run the game.

WHAT'S IT ALL ABOUT?

Battle for the Ashes is a cricket simulation based on the famous trophy and features some of the best graphics in any cricket simulation. The game features authentic scorecards, the full Ashes series, different bowling techniques and, wonder of wonders, realistic player animation – in a cricket game, surely not?! Find out by playing the PC POWER demo.

CONTROLS

Joystick or numeric keypad for ball direction. Shift/Ctrl – Fire



Virtual Golf

CORE

INSTALLATION

To install *Virtual Golf*, follow the prompts on the PC POWER menu and when the installation is completed, exit the menu system and type GOLF.

**WHAT'S IT ALL ABOUT?**

Virtual Golf is the latest golf sim for the PC and features completely rendered and realistic courses, coupled with all the clubs and kit you need to become a pro. Jon certainly became a pro at avoiding writing these disk pages, though, so it must work. VGolf will be out next month and there will be a full review then. For now, enjoy the playable demo.

CONTROLS

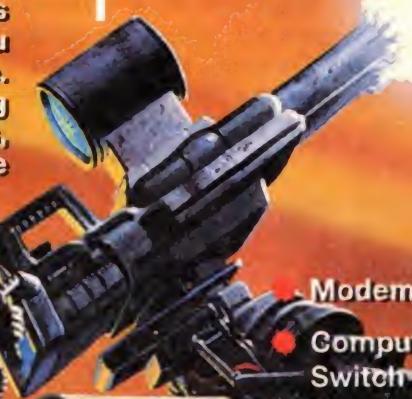
Completely mouse driven. Use button to select power and direction.

OPERATION™

Technology
licensed from
Id Software,
creators of
**Wolfenstein™
3D.**

BODY COUNT

Mass chaos erupts when militant terrorists take over the United Nations Towers. You are a member of the nation's Elite Force. Waste away all enemies, from scum-sucking sewer rats to steroid-pumped assassins, on your never-say-die mission to save the hostages.



Modem &
Network
Play



- Modem and Network Play.
- Computer-Controlled Allies – Switch between them or give out simple commands.
- Textured Floors and Ceilings.
- 40 Floors of Intense Battles.
- Multiple Weapons with Simultaneous Use – Fire away with the flame-thrower or waste a wall with the rocket gun.
- Enemies with Ambushing Tactics.
- Cinematic Introduction and Cut Scenes.

AVAILABLE ON
IBM PC AND
PC CD-ROM

REQUIRES: IBM 386 PG or compatible. 386 recommended; 4 MB RAM, 1 MB hard drive, MS-DOS 5.0, CD-ROM driver (double speed recommended) and software. GRAPHICS: VGA INPUT: Keyboard, mouse, joystick. SOUND: Sound Blaster family, AdLib, PC Speaker.

Capstone

THE PINNACLE OF
ENTERTAINMENT SOFTWARE

U.S. GOLD

A DIVISION OF CENTREGOLD PLC

Wings of Glory

ELECTRONIC ARTS

INSTALLATION

To install the *Wings of Glory* demo, follow the prompts on the PC Power menu, then exit the menu and type WG to play. Sound set-up is performed as part of the installation.

WHAT'S IT ALL ABOUT?

Wings of Glory is the latest smash Origin game based on the exploits of a young Candian flyer in the first world war. You spend a year in his shoes and must take part in dog-fights, spying missions and tense bombing runs in deep in German territory. One of the best flight sims on the PC and a damn good demo.

**CONTROLS**

Joystick controls for direction. **F1** – Cockpit camera. **F2** – Chase camera. **F3** – Left view. **F4** – Right view. **F5** – Back view. **F6** – External camera. [and] – Zoom in/out. **F7** – Target view. **Alt F7** – Overhead Camera. **F** – Change overhead camera angle. **F9** – Victim camera. **F10** – Weapon camera. **L** – Lewis gun camera. **C** – Invisible cockpit. **Y** – Fix eyes on target. **Space** – Fire machine guns. **G** – Toggle guns. **R** – Fire rocket. **B** – Drop bomb. **1** to **0** – Engine power. **+** – Step up engine power. **-** – Step down engine power. **`** – Shut off engine. **<** and **>** – Left/Right rudder. **A** – Autopilot. **N** – Navigation. **H** – Height. **D** – Damage. **S** – Speed. **E** – Engine Blipper (risks fire). **Tab** – Time burst, hold to maintain. **Shift Tab** – Time compression.



Tornado

DIGITAL INTEGRATION

INSTALLATION

To install the Digital Integration *Tornado* playable demo, follow the prompts on the PC Power menu, then exit the menu system and type RUN to play the demo with soundblaster enabled, type QRUN to play with no sound. This is a free-flight demo where you may fly anywhere on the tornado map in an invincible plane.

**WHAT'S IT ALL ABOUT?**

It's the hit flight sim from DI, but why the hell have we got it on the cover demo? Easy – *Tornado* has just been re-released on budget and we thought it would be simply spiffing to give you a chance to muck about in a million pound jet fighter. What more excuse do you need?

CONTROLS (n=numeric pad)

2(n) or Down arrow – Pitch Up. 8(n) or Up arrow – Pitch down. 4(n) or Left arrow – Roll left. 6(n) or right arrow – Roll right. 0(n) or Insert – Rudder Left. .(n) or Del – Rudder right. **Alt** + any of above – Fine control. +(n) – Open throttle/Increase reheat. -(n) – Close throttle/Decrease reheat. **Shift** +(n) – Full power and reheat. **Shift** -(n) – Minimum power. **S** – Sweep wings back. **W** – Sweep wings forward. **A** – Flaps/slats down. **Q** – Flaps/slats up. **Backspace** – Air brakes. **Backspace** – Thrust reversers. **B** – Wheel brakes on/off. **U** or **G** – Gear up/down. **Ctrl E** – Eject. **Enter** – Arm Air-to-Ground weapon. **Alt Enter** – Arm Air-to-Air weapon. **Ctrl Enter** – Cancel arm. **K** – Select weapons package. **L** – Select delivery mode. **Space** – Release/commit package. ; – Cycle Air-to-Air weapons. **Space** – Fire weapon. **C** – Release chaff. **F** – Release flares. **E** – ECM on/off. **T** – Skip to next waypoint. **R** – Ground radar on. **Alt R** – Air radar on. **Ctrl R** – Radar off. **D** – MFD function select. **Ctrl D** – MFD on/off. < and > – Local map MFD zoom in/out. **O** – Local map MFD origin toggle.



Superfrog & Image Commander

See HD instructions for details.



Utilities

SHEZ COMPRESSIONS COMPANION

Shez is a text-windowed way of managing your archive files. Archives can be viewed, created and updated. Self-extracting archives can be created and all major compression programs are catered for, providing you have the compression programs required. This program requires some work to configure it to your software, but once installed, it should save time when creating backups of your important software.

To install Shez, follow the prompts on the PC Power menu, then the Shez setup utility SHEZCFG will run itself to let you configure the program.

VID VUE FILE VIEWER

This utility works in the same way as the Windows Media Player, enabling you to play any format of picture/sound/video. Vid Vue has more options than Media Player though: images can be displayed on a full-screen, advanced options allow the output images to be gamma-corrected to suit your monitor, and a small army of utilities allow you to change the way that image files are processed.

VIEWER

To install viewer, follow the prompts on the PC Power menu, then start Windows. Choose File from the Program Manager menus, then choose Run box, then click 'OK' in the 'RUN' box. When the Windows installation runs, do not install viewer to the same directory it currently occupies (C:\VIEWER) as this will corrupt the files. When installation is complete, your Windows desktop will include a handy text editor and viewing utility.

VMBACK-UP

To install VMBackup, follow the prompts on the PC Power menu. When installation is completed, type VMBACKUP to enter a comprehensive backup utility which allows backups to be compressed, and does not suffer from the same problem as Microsoft Backup whereby files cannot be transferred from one machine to another.

WDUPE

To install WDUpE, follow the prompts on the PC Power menu, then start Windows. When Windows is running, use the program manager File menu command New,

then select 'Program Item' and click 'OK'. Now set the program's description to 'WinDupe', then click on the browse icon and select 'C:\WDUPE\Windupe.exe'. Now click on OK in the browse box, then click OK in the program item box. Your desktop will now contain a new program icon called WinDupe.

WinDupe is an innovative utility which scans your hard disk for files which have the same size and name. Where such files are found, you have the option to delete one of them, or if you're not sure, you can ignore the duplicate version and continue.

WINOCR

To install WinOCR, choose the 'Install WinOCR' option from the PC Power main menu, then start Windows. When Windows is running, use the Program Manager 'FILE' menu command 'NEW', then select 'Program Item' and click 'OK'. Now set the program's description to 'WinOCR', then click on the browse icon and select 'C:\Wunzip\wunzip.exe'. Now click on 'OK' in the browse box, then click 'OK' in the program item box. Your desktop will now contain a new program icon called 'Wunzip'.

Like Shez, Wunzip helps you handle your zip files more effectively, but unlike Shez, Wunzip runs through a point-and-click Windows interface for your comfort and convenience.

WinOCR is an Optical Character Recognition program for Windows. It allows multiple typefaces to be recognised and includes two sample bitmapped images which can be converted back to text. Ideal for anyone with a hand scanner.

WUNZIP

To install Wunzip, choose the 'Install Wunzip' option from the PC Power main menu, then start Windows. When Windows is running, use the Program Manager 'FILE' menu command 'NEW', then select 'Program Item' and click 'OK'. Now set the program's description to 'Wunzip', then click on the browse icon and select 'C:\Wunzip\wunzip.exe'. Now click on 'OK' in the browse box, then click 'OK' in the program item box. Your desktop will now contain a new program icon called 'Wunzip'.

Like Shez, Wunzip helps you handle your zip files more effectively, but unlike Shez, Wunzip runs through a point-and-click Windows interface for your comfort and convenience.

AT LAST... VIRTUALLY PERFECT GOLF



THE SCOTTISH OPEN

V • I • R • T • U • A • L • G • O • L • F

THE FIRST GOLF
GAME TO USE A
REAL-TIME 3D
ENVIRONMENT

MULTI-PLAY
OPTIONS

PC AND PC CD-ROM
CORE
DESIGN LIMITED

256 COLOUR
GRAPHICS AND A
CHOICE OF 3
'VIRTUAL' CAMERA
ANGLES

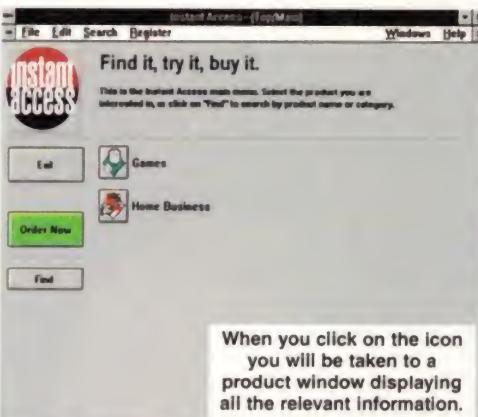
2-PLAYER OPTION

Instant Access

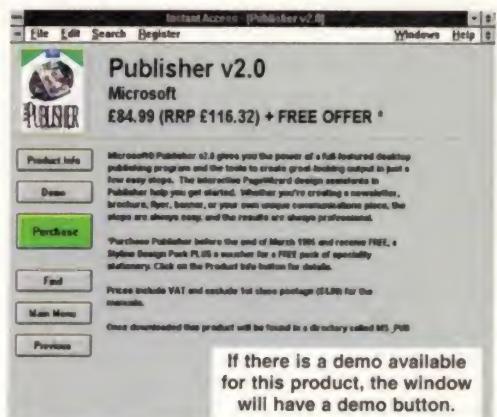
PC POWER, in association with Instant Access, present you with the opportunity to buy Microsoft products at greatly reduced prices.



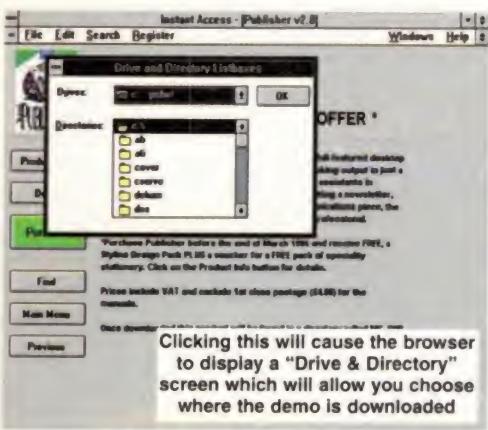
Double click the Instant Access Browser icon to find a comprehensive catalogue of demonstrations, trial and encrypted software packages



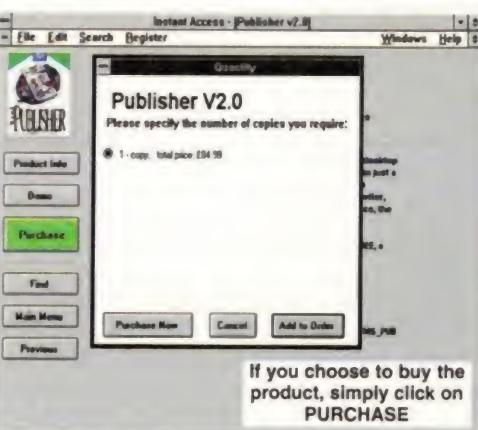
You will then find a menu with Games and Home Business options



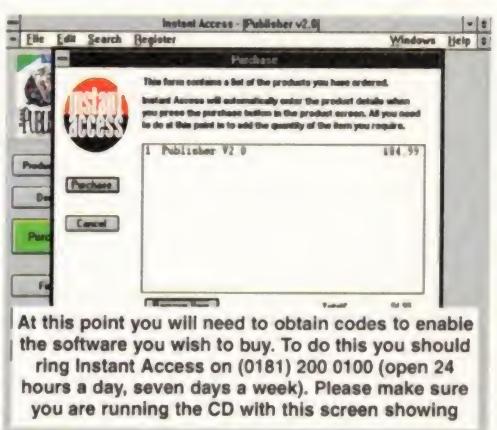
The window above shows a small picture of the product together with a brief description. For more information (system requirements, etc.) click the Product Info button.



The "Drive & Directory" window will appear before any of the demos are installed to your computer

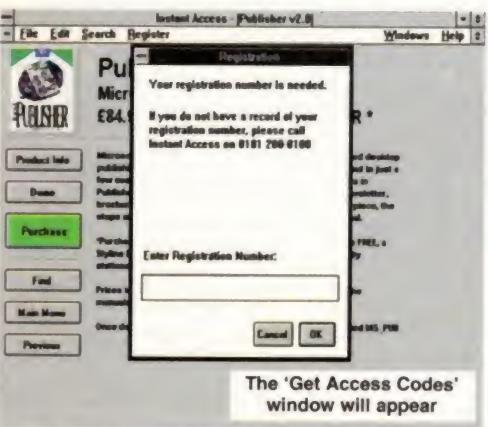


Buttons will allow you to ADD TO AN ORDER or PURCHASE NOW. The ADD TO AN ORDER button allows you to return to the main menu to order more products

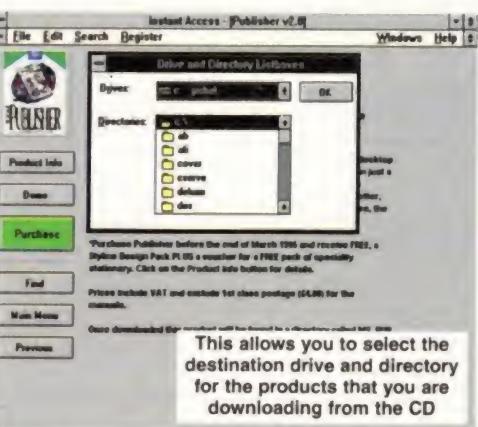


At this point you will need to obtain codes to enable the software you wish to buy. To do this you should

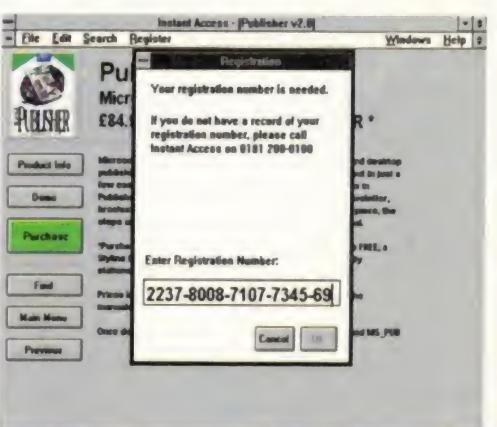
ring Instant Access on (0181) 200 0100 (open 24 hours a day, seven days a week). Please make sure you are running the CD with this screen showing



Read out the product code. We will enter this code into our system and verify the product price. Once confirmed, the ACCESS CODE unlocking the software will be issued.



Once you have access to the software, you must then choose a drive and directory to download it into.



You will now be able to click on the RETRIEVE button for the package to be downloaded automatically. If in doubt call Instant Access on (0181) 200 0100.

Microsoft Publisher

Publisher is a document design program that allows you to create graphic and text based documents.

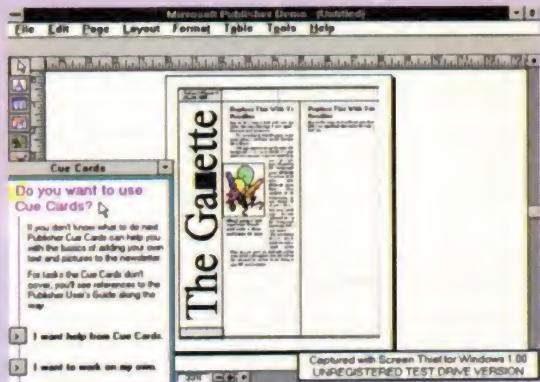
The most helpful aspect of Publisher is its use of PageWizards that allow you to design pages to a standard layout. With the demonstration version you are restricted to designing news letters but with the full version available with Instant Access there are many types of PageWizard available from tape cassette covers to calendars

Cue Cards are also available to help

you get to grips with Publisher. All the features associated with Desk Top Publishing packages are included within Publisher bound within an easy to use interface, text formatting, flexible layouts and page settings.

As with the Instant Access Microsoft Works package saving, help and tools utilities are not available in the demo version but with a phone call you can be granted full access to all features.

Microsoft Publisher costs only £84.99 + £4 postage, saving £30 on the RRP.



Microsoft Works

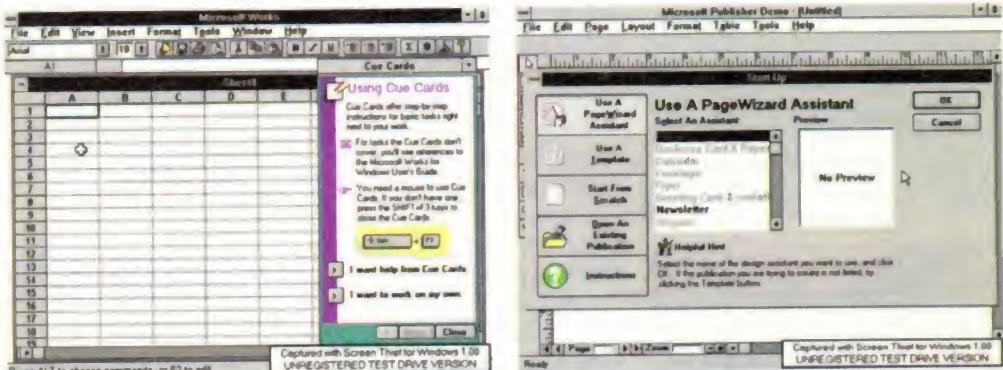
Why bother buying separate utilities for your PC when you can buy the lot in one go and be assured of easy interaction between any kind of document? If this sounds useful then Microsoft Works could be for you. Here on the CD we have the demo version that you can peruse and experiment with at your leisure.

If you decide that it's for you then a simple phone call with your credit card details will grant you instant access to the full package. Microsoft Works for Windows version 3.0 consists of a word processor, spreadsheet, database, drawing and communications module. All accessible from a single launcher program and all capable of interacting with each other.

In real terms this means that you can create a spreadsheet and incorporate in your letters or transfer results from it into your database.

The only restrictions on the demo version are a lack of document save, file conversion facilities from other packages, on-line help information and tools such as spell checker, thesaurus or row sorter. All these features become active if you purchase the full product through instant access.

If you decide you want Microsoft Works for Windows then you can pick it up for a bargain price of £109.99+ £4 postage, a saving of £30 pounds on the RRP. Also if you order before the end of March 1995 you will receive Microsoft Money as a free added extra.



Microsoft Games

Microsoft Golf v.2

Get out your strange trousers and Tarby hat! Microsoft Gold v.2 is arguably the best golf simulator available for the PC today. At these prices, golf fans will love it!



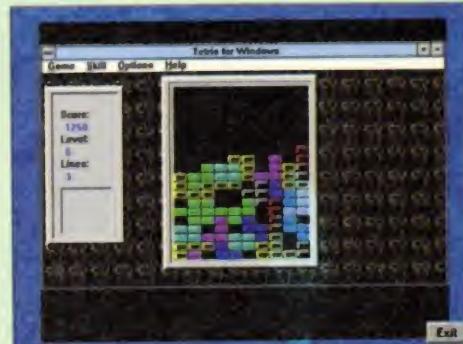
Flight Sim 5.0

Take to the skies in Microsoft's legendary Flight Sim 5.0. With hundreds of scenery and expansion packs available, would-be pilots can practise their flying on a PC in the most realistic home flight simulator created to date!

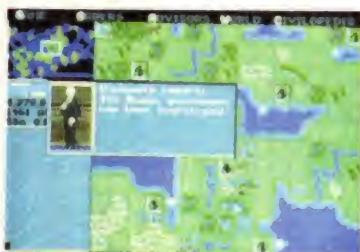


Entertainment Pack

Featuring a number of board, card and puzzle games, Microsoft Entertainment is a fun package for all the family. There's even a version of Tetris on there.



NEWS



MORE EMPIRE BUILDING

After the compilations *Award Winners Gold* and the more recent *Combat Classics 3*, Empire Software have just announced *Award Winners Platinum*, featuring three more hit PC games.

AWP contains Sid Meier's *Civilisation*, Gametek's *Frontier: Elite II*, and *Lemmings* – for £34.99!

AWP should be out now and we highly recommend it if you haven't got any of the games.

RECOMMENDED GAMES

Every month we recommend our favourite games to you, the PC POWER readers. These will be only the creme de la creme of software and at least one of them should definitely be in your collection.

NASCAR Racing



Virgin • Power Rating: 85%
No Nicole Kidman, but everything else a stock car racer could want is here, draped in SVGA graphics and featuring the breathless presentation and accuracy of *Indycar*. Floor the throttle, hear the revs roar and you're instantly hooked. Play it with a Thrustmaster Steering Wheel for the ultimate experience.

Descent



Interplay • Shareware
Doom in a spaceship had Jon hooked for days (much to the detriment of the deadline – damn 'im) and we have to agree that it is a fine shoot-'em-up indeed. The graphics are dark and moody and it moves as smoothly as *Doom 2*, if not more so. *Descent* will be the surprise hit of 1995, we predict.

CALLING ALL GORDON GECKOS!

Tired of paying big bucks for loads of different Windows applications? Well now you can get a basic word processor, spreadsheet, database, report writer and chart module for a measly £49.99.

One Stop Software, creators of *Business Card & Certificate Designer* (*woah!*) and *Schedule Works* have just announced the *CompuWorks* which is an all-in-one package providing a cost effective alternative to the more expensive programs from Microsoft and Lotus.

CompuWorks is available from One Stop Software on (0181) 780 1001.

MIDI FOR WINDOWS '95

It has been revealed that Microsoft and Opcode systems will integrate the Open Music System (OMS) MIDI architecture into Windows '95 due out later this year. OMS will allow for

greater plug and play applications such as keyboards, synthesisers, drum machines and effects processors to be used instantly.

The MIDI extension for Windows '95 will be available three months after it has shipped and then subsequent versions will all include OMS as a standard feature. For more information on the OMS MIDI, contact Opcode via the Internet at oms_request@opcode.com.

CF ON CD!

Good old Telstar. Apart from the numerous naff music compilations they are also a dab hand at sticking two good games in one pack for less than the price of both. This is good news for PC gamers everywhere and it means classic games are regularly re-released at bargain prices.

After the success of the *7th Guest/Dune* pack (that has reportedly sold over 30,000 units), Telstar have just released *Cannon Fodder* (94% Platinum award) and *Beneath a Steel Sky* (88%) for just £49.99.

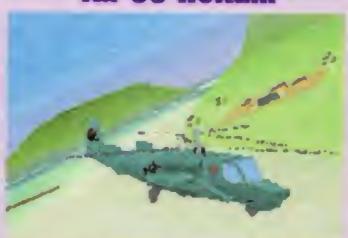
This is the first time *Cannon*

Alone In the Dark 3



Infogrames • Power Rating 91% PA
The first was brilliant and completely original, the second was much harder and not as fun, but the third is by far the best yet, with excellent graphics and an involving plotline. *Alone in the Dark 3* is one of the most intensely visual and atmospheric adventures on the PC today. A stunner.

Ka-50 Hokum



Virgin • Power Rating 91% PA
A flight sim has to be pretty damn good to impress us these days and *Ka-50 Hokum* was a complete surprise. Featuring some almost military simulator quality graphics and a plethora of missions, some of which have you commanding whole flights of choppers, this is one apocalyptic game.



Fodder has been available on CD and the pack marks the beginning of many more CD compilations planned by Telstar for 1995. Both games are absolutely superb and offer good value for money and we recommend the pack highly if you haven't got both games.

CRITERION & YAMAHA JOIN FORCES

At the start of this year, a partnership was formed between Criterion Software and sound chip giant Yamaha that could well change the face of 3-D graphics chips on the PC. Criterion have agreed to optimise their Renderware software for use specifically with Yamaha's 3-D chip, and also to collaborate on future hardware and software projects.

Yamaha's new 3-D chip, the Rendering Polygon Processor (RPA) is already one of the most competitively priced 3-D chips that allows for texture mapping, and now with Criterion's Renderware package support, it should provide unparalleled 3-D performance for a low price (well below \$300!). There will be a full report on Criterion's Renderware real time 3-D graphics engine next issue.

MJN'S ENTRY LEVEL PC

As MJN rise from the ashes, a new entry level PC has just been shown to the press. Based on the Blue Lightning 486DX2-50 processor, the PC has 4Mb of memory (upgradeable to 64Mb), a 340Mb hard drive and 32-bit VESA local bus graphics as standard.

At £798 the PC is great value

for money and although it only has three free slots, there is a mini tower version available for £799 which has six drive bays



and eight free slots – two VESA and six ISA! Both come with a 14" SVGA monitor and are pre-installed with DOS, Windows 3.1 and Lotus' SmartSuite. Worth a look if you want a cheap, basic machine that is capable of running most desktop applications.

SEX ON CD!

Yep, pervs that we are, we just had to test the lastest incarnation of the *Joy of Sex* (18 certificate), on CD-ROM, would you believe. This is a complete encyclopaedia of the sexual act from start to finish in excruciating detail, and includes personal guides with sexual stereotypes, a questionnaire, and a game which makes *Strike it Lucky* look like the *Running Man*!



Basically, what you get for your £39.99 is three and a half hours of audio and 30 minutes of full motion video (mainly softly lit, honey-smeared lens kind of pap) explaining all about health and safety, positions, oral sex and many other bits and pieces best left to the discerning 'art critic'.

You are also subjected to some extremely inane dialogue, such as the bit where the poet likes to touch the "shocking fuzz of your electric fur", whatever that means.

The disk access is unbelievably slow, often taking longer than the brief glimpses of flesh, and the entire CD is full of cheesy old grannies and insane professors harping on in candid terms about how to achieve the ultimate orgasm.

The game is also a joke, as you get four multiple choice

questions that apparently give the mad professor the right to say you are ideally suited or completely useless for each other. He also has an annoying squeaky voice that is completely ill-suited to the subject matter. Do yourself a favour, skip this trite piece of software and go straight to the practical.

CLOSE ENCOU-N-TIAS

Virgin have just announced an impending CD-ROM game featuring none other than the delicious Tia Carrere (*Rising Sun*, *Wayne's World*, *True Lies*). *The Daedalus Encounter* is an interactive adventure where you must help Ari (Carrere) and her side-kick, Zack (Christian Bocher) to prevent a crippled alien spaceship from colliding with a binary star and wiping out most of the galaxy (and we can't have that, can we?).

You play the third member of the team and your brain is encased in a mechanical probe, endowing you with the ESP needed to guide Ari and Zack through the game. The action takes place on the alien ship (God knows how you got there) which is simply crawling with piranha-like Krinn aliens, who, in the true American tradition, must be blasted to atoms before they can get their oily hides on Tia's spacesuit.

The Daedalus Encounter is on the way soon, so expect a preview next issue.

SHOCK! ENGLAND WIN AT CRICKET!

Always one to encourage new talent and enterprise, PC POWER presents the Willow Cricket Scorebook from EddSON. This is a comprehensive computer based scoring system for desktop or laptop PCs and has been apparently approved by the Association of Cricket Umpires and Scorers, which must count for something with cricket players (it means absolutely bugger all to me!).

If you can't do without a computer scoring card for cricket and you are prepared to shell out the hefty £90 for the Willow Cricket Scorebook, then contact 3-D Cricket Ltd on (01242) 241819.

MAGIC CARPET DATA DISK ARRIVES

Yes, it's here, the first data disk for Bullfrog's revolutionary 3-D masterpiece, *Magic Carpet*. *Hidden Worlds* loads in with your full copy of the game and offers 25 new levels set in snowy



Mine's bigger than yours! PC Envy, it's a sad fact of life that PC owners like to brag about their machines and bore people silly at dinner parties. "Oh, so you're a top super model are you? Well that's nothing, I've got a 486DX4 with an 800Mb hard drive!"

PC POWER recognises this sad and quite frankly embarrassing aspect of owning a PC and we salute it. All hail to the hard drive! More power to your ports!

PC Envy is a regular feature designed to cure you, the PC POWER reader, of this tragic 'keeping up with the Joneses' affliction. All you have to do is send us the details of your PC and a picture of you and your machine so that you can proudly boast about it and make the owners of lesser 386s feel small and insignificant. The featured reader will win a prize of our choosing, so send your details to *PC Envy, PC POWER magazine, Durham House, 124 Old Christchurch Road, Bournemouth, Dorset BH1 1NF.*

wastes. All-new graphics mean that all the buildings have been re-jigged to complement the icy surroundings, and the programmers promise that the graphics are even more haunting than the original.

The main differences over the original are tougher enemies, a more difficult network link, and a



PC Envy



This month, our illustrious ed shows off his blatantly penile P60.

Name: Damian Butt

PC Owned: Opus Pentium 60MHz, 8Mb, SoundBlaster, SoundForce Speakers, 450Mb hard drive, Sony CD-ROM. Diamond Stealth Graphics Card. Pet name: Belinda.

Total Cost: £1800 approx

Games Installed: US Navy Fighters, NASCAR, Wings of Glory, X-Wing CD, Z80 Spectrum Emu, Doom 2 (of course).

new spell called the Homing Meteor (sounds promising).

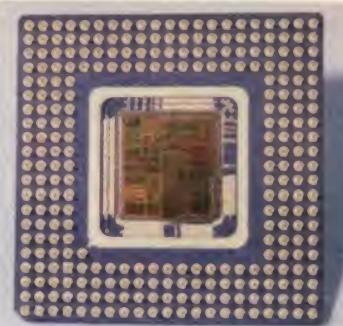
Magic Carpet: Hidden Worlds will be available at the end of February from EA, priced at £19.99, and you need the original for the game to run. A full review next issue.

the chip also fell by 60% in the same period. All indications are that worried consumers are buying high-end 486-66s instead of Pentiums, but it is unlikely that the average home user will ever experience any problems from the fault.

Despite the fact that Intel have announced that it will replace any faulty chips, people still continue to shy away from Pentium power because the chips can be replaced, but not all the lost work. The big question is whether or not Intel can recover from such a devastating hit and re-establish the brand name? What is certain is that compa-

PENTIUM SALES HALVED

According to Time Computer Systems, sales of the Intel Pentium chip have fallen by 50% since the floating point fault was discovered in December, and enquiries about



" $2+2=3.99999999973$ " said this Pentium, yesterday.

nies such as MJN and Opus are still offering bargain rates for their P60 models (£1,499 and £1,299 respectively) and now is a good time to buy.

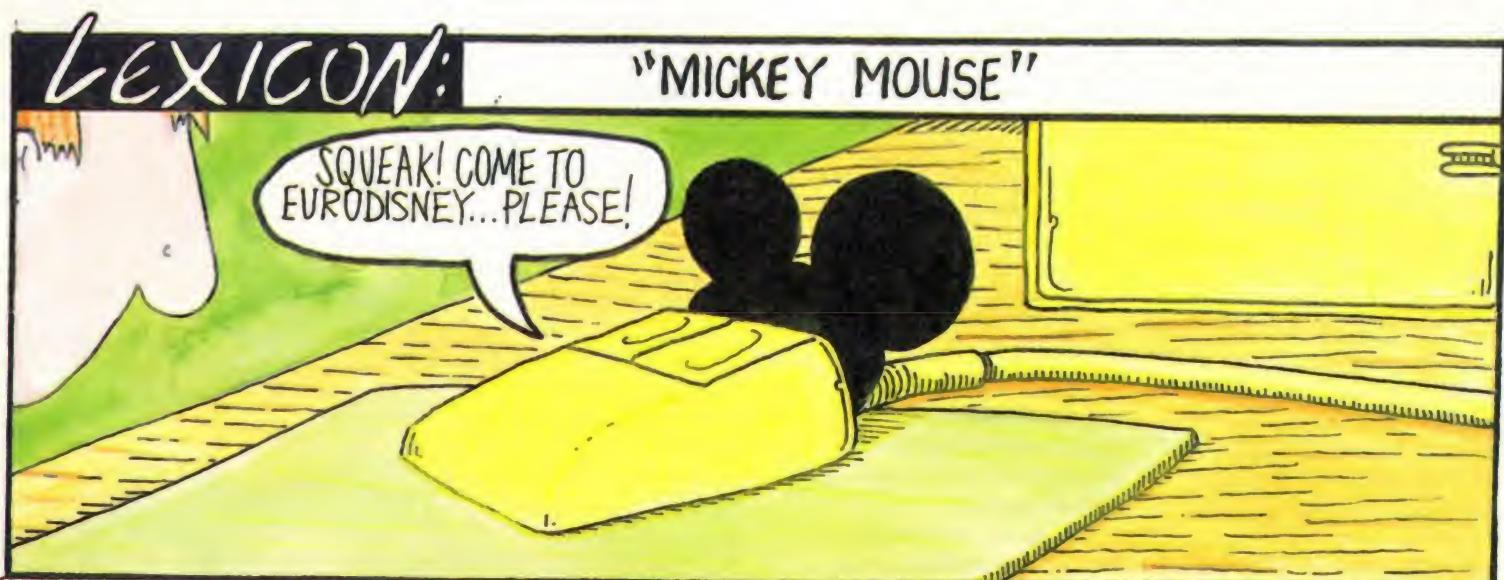
CLAPT OUT!

Brian May? Pah! Eric Clapton? Not a chance! Not after you've got hold of this latest gadget by Virtual Music, shown at the CES in Las Vegas. The Virtual Guitar is essentially a game controller shaped into, guess what, a guitar! The strings do not travel all the way up the fret board as in a real guitar; they only show at the bottom of the instrument.

Once connected to a PC, you can play tunes by strumming the strings in time to an on-screen meter. The software sorts out what note (or chord) you should be playing and does just that via a MIDI device.

The software allows you to start in your bedroom; practising simple tunes to the accompaniment of a MIDI song. After you have graduated this stage of the game, you can audition with a typical American garage band, and eventually play an entire concert with them.

Reaching this stage has another welcome point; the songs cease to be MIDI driven



GOOD TO FIRM

ANOTHER CLASSIC from new era software



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PO Box 19, Livingston, Scotland EH27 8EH

Ten good reasons to drool about Simon the Sorcerer II

1. The lead character wears an unfeasibly stupid hat.
2. There are absolutely NO anoraks involved in its production.
3. It contains a large quantity of swamp stew.
4. It's vastly superior to its predecessor and features lots of features.
5. It's chock full of myths, legends, fairy tales and beards.
6. It's fortified with vitamins and minerals.
7. It features superb quality graphics and sound which will knock your socks off.
8. It's available April 95 (on CD-Rom) so that it can form part of a calorie controlled diet.
9. The word 'crevice' is used 43 separate times.
10. It's a bit of a laugh really.

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and are streamed off the CD in real time, leaving only your own playing still in MIDI format. The software even takes control of all of the mixing, leaving you free to play until your fingers can't cope with it any more.

You're not limited to playing chords either. Some of the songs require you to play entire solos and riffs that would have your fingers flying around the fret board as if you were playing a real guitar. The satisfaction of playing along with a real song is something that really gets you hooked on the product, even if you've never played a musical instrument before.

Additional software is being released at the time of going to press, and the most popular title

seemed to be the one produced in conjunction with *Aerosmith*. Currently retailing in the States for \$199, expect to see it over here within a few months.

IT'S WAR!

Empire, one of the few distinctly English software companies at the Vegas CES, had quite a large stand, but only a little in way of previews of forthcoming attractions. Their first big release of 1995 is set to be *Red Ghost*, a helicopter combat game based around the USSR's fleet of gunships.

A meld between strategy, tactics and arcade combat, *Red Ghost* had everyone glued to their seats with its stunning SGI intro and graphics. Still in the early stages of development, this game will be on the shelves of your nearest computer store around May.

As well as *Red Ghost*, Empire were showing off their new strategy game, *Civil War*. Based around the entire history of the



American Civil War, this game has to be the most comprehensive war game yet seen on the PC.

Two versions are planned; one for CD and one for floppy, but the CD version will also include a complete database of the history of the war, including profiles on all of the major characters and featuring still scenes from the era. Sadly, the floppy version will not be able to hold all of this information, and will be limited to the actual game itself.

CYBERJUDAS?

Following up *Cyberwar* is going to be hard to achieve, but SCI are working on it. Four titles are in the works at the moment at their development site in Southampton, the first being *Hard Corps* (working title).



Based on polygon and texture mapped technology, *Hard Corps* will no doubt appeal to every *Doom* fan around, but in the

immortal words of James Beaven, UK PR bod for SCI "The world definitely doesn't need another *Doom* clone."

Gender Wars, their next work-in-progress title is a slightly comical look at political correctness gone bad, when the world disintegrates into a men vs women scenario. Heavily strategy based, *Gender Wars* is sure to raise a few eyebrows, not least because of the subject matter.

Kingdom 'O Magic is a hilarious, fully rendered point & click adventure set in a bizarre fantasy land. The humour is very droll, but comes in such abundance that it's a wonder that buyers of the game will have any time to play it at all amongst the fits of hysterics. SCI are planning to make the game a 'full-talkie', complete with some big name stars to do the voice-overs for the game.

Sadly, they are sworn to secrecy at the moment as to the identity of these stars, but PC POWER will, of course, be the first to let you know.

Lastly, of course, is the conversion of the *Lawnmower Man* 2 film, subtitled *Jobe's War*. The actors from the film are being filmed separately using blue screen technology, and SCI are writing the script to the game, rather than trying to write the game around the movie script.

Book Look

Our look at a selection of PC books from Computer Manuals, (0121) 706 1188.

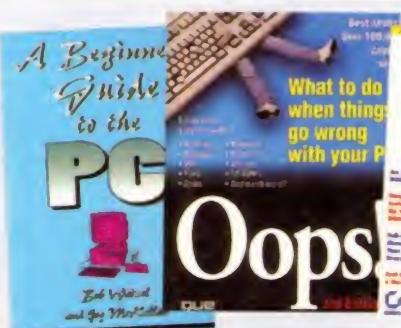
This month we look at DOS 6.2, *Quick & Easy* by Ron Mansfield (£17.99), *Oops! What to do when things go wrong with your PC* by Mike Miller (£18.49), *Windows VisiRef* by Trudi Reisner (£11.99), and *A Beginner's Guide to the PC* by Bob Waixel and Joy McKellen.

DOS 6.2 is very much a basic guide to the operating system and therefore perfect for PC novices. It starts with, why you need DOS, and then goes on to give well spaced and easy to understand examples of the various commands and how they work. The whole book is exceptionally well laid out and particularly useful if you're sat at the PC while reading it. The

best bits are maximising your disk space (useful for games) and recovering lost files, both of which are central to every PC owner's lives.

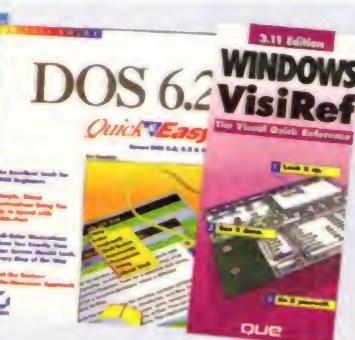
The only problem is that once you've read through and understood it, you'll never need to read it again. Still, when you are in the early stages, it is invaluable.

If you are really dense then *Windows VisiRef* is perfect for you. This is 160 pages of full page colour pictures of the various menus in Windows, complete with handy pointers that tell you exactly how to execute every command. This is perfect for real beginners and people who are hard of thinking, but surely the whole point of Windows is that you can click and point on any of the icons and be away in minutes.



Oops! is the ultimate guide to error messages and solutions and is such very useful. If only the authors would stop writing "Don't panic." What sort of advice is that? Of course you're going to panic if flames belch out from your hard drive!

Other than the bleedin' obvious, *Oops!* is actually a damn good read and will no doubt solve many of the elementary problems that are part and parcel of owning a PC. Memory errors, sound card faults, sluggish printers, they're all solved here and in extensive detail. A



good reference guide.

Finally this month we've got *A Beginner's Guide to the PC*, which, apart from lacking a definite style, is a useful and informative book on what can go wrong, and how to set your PC up. This book also includes plenty of flow diagrams that look as if they were produced on an old Commodore printer using only hyphens for lines and '<' symbols for arrow heads. Surely someone with a knowledge of PCs could have used a proper package for this sort of thing?



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(FMV = full motion video · films etc., on CD format · needs special decoder)

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- Celebrating Bird-Charlie · Parker · Satcho-Louis Armstrong ·
- Bolshoi-Swan Lake · Bolshoi-Nutcracker · Pavarotti in Concert ·
- Rock Legends 1 · Rock Legends 2 · Dorling Kindersley-Dinosaur ·
- Dorling Kindersley-Shark · Dorling Kindersley-Elephant ·
- Superman · Blue Note-Two Hot for MTV (rated 18) ·
- Daffy Duck and Friends · Bugs Bunny and Friends · Popeye ·
- Rod Jayne & Freddie Lives On · Stage · Pin Up Girls (rated 18) ·
- Enjoying Sex (rated 18) · War Years-Europe in Flames ·
- War Years-Years of Victory · Crash Wars ·
- Police in Pursuit-Go Fishing Masterclass ·
- Tom O'Connors Funny Golf · Turkish Delight (rated 18) ·
- History of the World Cup · Chris Tarrants Crazy Movies ·
- Body Plan · Raquel Welch 10st 10lbs ·

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Please note these goods are only available for the over 18's.

It is illegal to do otherwise and the age limit is strictly adhered to.

Yet again, I've been sworn to secrecy for this month concerning these mammoth SCI products, but make sure you get next month's PC POWER which will contain a full feature about SCI, the company, the people and their products in more detail.

A FIRST ENCOUNTER?

Gametek had one of the more impressive stands at the Las Vegas CES. A high-rise affair set in the middle of the large Pavilion, they were obviously trying to tower above the competition.

The new *Elite* game, *Frontier: First Encounters* (effectively *Elite 3*) is still being written by the original author of the game, Dave Braben. The game expands on *Frontier* by improving some of the more tricky aspects like combat and navigation.

In addition the game also features 30 different ships (which you can own if you save up enough credits), a superb FMV video bulletin board (on the CD version), completely rewritten and texture mapped graphics,



and of course the big news is that the Thargoids are back! *FFE* will be out at the end of March.

Gametek have been branching out lately, and their latest quest on the PC is to prove that you can write a playable beat-'em-up on this otherwise ancient machine. *Super Street Fighter II: Turbo* is nearing completion, and I must say, looks and plays just as well as its console counterparts. Every character has been faithfully reproduced, including all the special moves (which are a little difficult to get without the aid of a Gravis joypad!). *SSFII: Turbo* may be the first time that a mainstream beat-'em-up on the PC becomes a big hit.

Also on the stand was *Baldies*, a *Lemmings/Populous* type game where you control the destiny of a tribe of, yes you've guessed it, baldies! Bizarre, yes, but it played extremely well.

CD-ROM CHARTS

1 (-)	Microcosm
2 (1)	Megarace
3 (6)	Magic Carpet
4 (2)	Doom 2
5 (7)	Wing Commander 3
6 (3)	Creature Shock
7 (4)	Theme Park
8 (5)	Privateer/Strike Commander
9 (8)	Little Big Adventure
10(10)	Encarta 95

Psygnosis
Mindscape
Bullfrog
Virgin
Electronic Arts
Virgin
Bullfrog
Electronic Arts
Electronic Arts
Microsoft

FULL-PRICE PC CHARTS

1 (5)	Mortal Kombat
2 (2)	Winter Olympics
3 (1)	Sim City 2000
4 (3)	Doom 2
5 (4)	Star Trek: 25th Anniversary
6 (6)	The Lion King
7 (18)	Colonisation
8 (9)	TIE Fighter
9 (11)	Transport Tycoon
10 (-)	Microsoft Flight Simulator V.5
11 (10)	Overlord
12 (13)	Soccer Kid
13 (7)	NASCAR
14 (12)	Cannon Fodder 2
15 (19)	All New World of Lemmings
16 (-)	Aladdin
17 (20)	Indycar Racing
18 (15)	Theme Park
19 (-)	X-Wing
20 (-)	Microsoft Space Simulator

Virgin
US Gold
Maxis/ Mindscape
Virgin
Interplay
Virgin
MicroProse
Lucasarts
MicroProse
Microsoft
Virgin
Krisalis
Virgin
Virgin
Psygnosis
Virgin
Virgin
Bullfrog
US Gold
Microsoft

For budget charts, turn to page 103.

Next month in PCPOWER

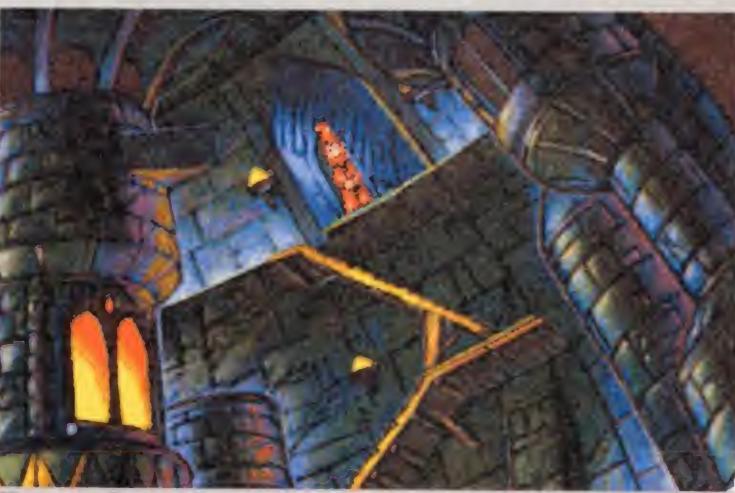


SVGA - is it all it's cracked up to be?

We look at the new generation of SVGA games to find out just what the advantages are and how much playability is sacrificed in the name of aesthetics?

Notebooks

The best, the rest, and the downright flash.



Round and round

At last – the full review of Terry Pratchett's Discworld from Psygnosis!

Also featured:

Comanche: Maximum Overkill Super Pack, *Full Throttle*, *Dark Forces*, *Super Karts*, *Star Trek: TNG*, *Tank Commander*, *Virtua Chess*, *Sim Tower*, *Front Lines*, *Fighter Wing*, *Guilty*, *Sim Isle*, *Flight Unlimited*, *Hammer of the Gods*, *Pizza Tycoon*, *Navy Strike* and the full review of *Frontier: First Encounters*.

Plus reviews of all the latest hardware including the latest P75 Pentiums, Virtual i-o's i-glasses, a group test of the best speakers (inc surround sound) for your PC, news on cellular fax and voice activated hardware, and of course even more technical help from our PC wizard in Jon'll Fix It!

All this plus a double CD pack containing all the latest game demos, a new 3-D fighting game from Criterion, tons of shareware and the world's first digital interview for you to watch. It's all in the next issue of PC POWER. Don't miss it.

PC POWER #16: AVAILABLE 16 MARCH

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Issue 5 out on sale February 2nd



VIRTUAL i-O
PERSONAL DISPLAY SYSTEMS

i-glasses!

VIRTUALLY VEGAS

Dino Boni reports from the Las Vegas CES on the latest in PC-compatible VR technology.

Forget games for a minute and think about the future. By far the most outstanding product at the CES this year was the Virtual i-O i-glasses which won an innovators award from the show's organisers and promises to take Virtual Reality to a new dimension. You may have seen the various VR headsets around at the moment (all for about £500!), but Virtual i-O does away with those bulky Darth Vader helmets and instead replaces the whole unit with a set of regular glasses made from highly durable shock-proof plastic (in matt black, naturally). The whole unit comprises of the glasses which then wrap around the head to keep them on and include Hi-Fi quality headphones, and even a clip-on visor if you want your normal vision completely obscured.

What makes the i-glasses so revolutionary is that all this weighs just eight ounces, so won't strain your neck like a Cybermaxx headset. The heads up display (HUD) in the glasses gives a field of view of 30° for each eye, but the important factor is that it doesn't totally shut out the outside world, thus preventing the motion sickness and vertigo that some VR users experience.

The possibilities for the i-glasses are virtually (ho, ho) unlimited and the company were proudly boasting a wide range of applications from surgery (doctors can use the HUD to see vital charts or readings whilst simultaneously operating on a patient), in-flight movies, home gaming, and they may even replace bulky VDUs for portable PCs, as the glasses give you effectively an 80" screen to work on privately, and without the huge battery drain!

Virtual i-O's i-glasses are priced at about the same as the existing helmets (\$599), but with more and more uses becoming apparent every day, the price is bound to come down to cope with demand. It is worth stressing that with the i-glasses, the total immersion video games that VR helmets have given us up until now will become completely obsolete as they are much easier, lighter to wear, and even cater for people who wear glasses, because they will fit right underneath the unit.

At the moment, Virtual i-O is taking orders and passing out development kits (anyone thinking of developing for the i-glasses should contact the company in America on (0101) 206 382 7410), so the i-glasses should be with us in the UK fairly soon. At the moment the games compatible with the system are on Sega, Nintendo and 3DO, but the PC module will be available just after, hopefully allowing for games like *NASCAR*, *Wings of Glory*, *System Shock* and of course, *Doom 2* to be played in virtual mode. The future looks bright. (1)

RETRIBUTION

**Now gremlins
are affecting
satellites!**

Instead of installing Windows, you could soon be installing a brand new Sky Satellite Television System, courtesy of those beaming chaps at Gremlin Interactive.

The prizes don't stop there either. As well as this spanking new piece of kit, Gremlin are also throwing in a free month's subscription to The Movie Channel and a copy of their latest Sci-Fi shoot-'em-up, *Retribution*, on CD-ROM or disk.

In this alien blaster, you (rather than a few billion TV signals) are being bounced around the cosmos in a deadly war against the Krellan.

The year is 2425. For too long these aliens have preyed on human colonies throughout the

universe. But now you've arrived on the scene to wreak vengeance; it's time to blow these human meat eaters away!

Retribution is the first game to use the new graphics routine known as Logi Scape. It also has a few other astounding features including an incredible music score by the classical composer Chris Adams, as well as box artwork by 2000 AD artist, Kevin Walker. *Retribution* is a game you won't forget in a hurry and will certainly go down nicely with a shiny new satellite system.

So how do you walk away with the goods? Well, we at PC POWER have thrown together the following questions. They're not difficult, so there's no excuse for not entering.

Just to add to the excitement, we're giving away five copies of the game as runner-up prizes.

Scrawl your entry on the back of an envelope, postcard, playing card, black hole card, used bank note, anything really, as long as it's got a stamp, your name, address and answers on it.

Send your entries to:
Gremlin Satellite Competition,
PC POWER, Durham House, 124
Old Christchurch Rd,
Bournemouth BH1 1NF.

Make sure your entry reaches us before 20 March or it will be cast into space. Good luck!



**1****What is the definition of Retribution?**

- A: The distribution of small explosive dishes known as Retrili.
- B: The act of punishing or taking vengeance for wrong doing, sin or injury.
- C: A substance secreted by insects, that can be used to clean your teeth.

2**In Retribution, who are the enemy of the human race ?**

- A: The Krellan.
- B: The Krays.
- C: The Crankies.

3**How many film channels does SKY have in total?**

- A: 4
- B: 3
- C: 69

TOTAL PC!

We all suffer from kit lust at some point or other. A few hundred quid burning a hole in the bottom of a pocket, an extremely understanding Bank Manager or the real need to update a system to silence your scoffing mate. Whatever the reason, we all succumb to the need for more kit sooner or later.

You can buy a staggering array of goodies to bolt onto (or into) your PC, but some are more useful than others. If you're not careful it's possible to spend a lot of money without making any noticeable improvements. PC POWER presents the definitive guide to upgrading your PC and keeping up with the Joneses.



For the benefit of PC virgins, people who've wandered in from console land and the recollectively challenged, here's a list of just a few PC-esque items you can buy...
(NB: model not included)

- 1: PC (obviously)
- 2: MOUSE
- 3: CD-ROM DRIVE
- 4: MOTHERBOARD
- 5: MEMORY CHIPS
- 6: HARD DRIVE
- 7: KEYBOARD
- 8: MODEMS
- 9: PRINTER
- 10: SPEAKERS
- 11: MONITOR
- 12: GRAPHICS CARD
- 13: SOUND CARD
- 14: MPEG CARD
- 15: JOYSTICK
- 16: AIRCRAFT CONTROLLER
- 17: FOOT PEDALS



So, you've seen what you can get – but what do you need? As ever, PC POWER is here to help. Decide which of the five types of user fits you most closely, then simply join the dots!



GAMES PLAYER

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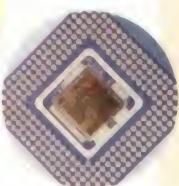
4MB RAM

**CACHE
MEMORY**

**POWERED
SPEAKERS**

**SOUNDCARD
(GENERAL MIDI)**

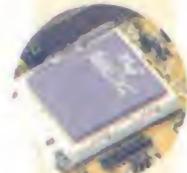
**SOUNDCARD
(SOUND-
BLASTER)**



MUSIC FAN



POWER USER



**HOME/SMALL
BUSINESS**



**MULTIMEDIA
MASTER**



CD-ROM DRIVE

15" MONITOR

VIDEO RAM

TV TUNER

VIDEO
GRABBER

FAX MODEM

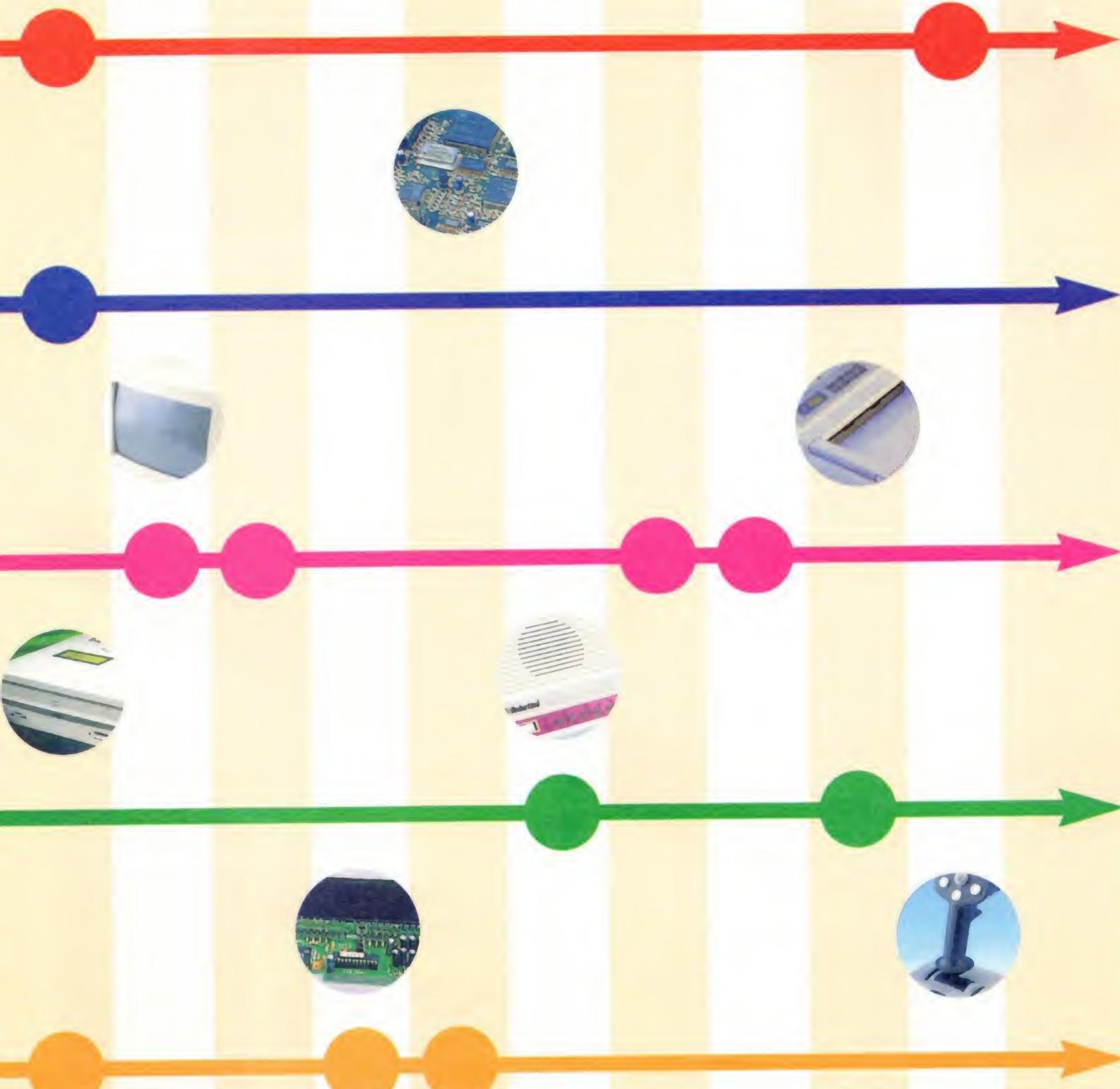
OS/2 OR
LINUX

LASER
PRINTER

INK JET
PRINTER

JOYSTICK

YOUR IDEAL
SYSTEM!





If you want to

know exactly which CD drive is right for you, where to get it and at the cheapest price, turn to page 80 for Jon Pyle's complete guide to buying a CD-ROM drive and fitting it with step by step guides. But just in case you want to cut out and keep this feature for use as a hat, moustache or pteradactyl (Airplane Quotes R Us!), here are two top drives as recommended by our technical editor.



Panasonic CR563-B

Panasonic • Tel (01344) 862444 • £89

A cheap and high quality dual speed CD drive with a fully motorised tray and a very high speed rate. A good first choice and cheap too.

Power Rating: 86%
Recommended!



Recently, the price of hard

disks dropped to unbelievable levels. Suddenly the 120Mb drive everyone was proud of was replaced by 400-500Mb drives for even less. Even 1Gb drives are starting to become affordable. It's amazing, and also very timely, because with new operating systems and huge applications and games, you need every Mb of disk space you can get.

Traditionally, the standard for hard drives has been IDE. It's cheap-ish, fast-ish and quite reliable. The disadvantages are that you can only have two devices connected to one interface, and "fast-ish" isn't really good enough anymore.

SCSI and SCSI2 looked like becoming popular again as speed and the ability to add up to seven devices become important, but the relatively high price of SCSI interface cards has seemed to put a lot of potential users off.

Thankfully, IDE AT has arrived, which offers some good speed increases (not as fast as SCSI2 but still good) over IDE. The price isn't too steep either. When shopping for a drive, make sure it's of this new type and get one of at least 500Mb – you'll need it.

Toshiba XM3501B

Ideal Hardware • Tel (0181) 390 1211 • £299

One of the best quad speed drives available (at a price) with an incredible 600kb a second transfer rate and superb engineering.

Power Rating: 85%
Recommended!

TOP TIPS

ADDING A NEW DRIVE

Up to two IDE drives are supported by most PCs. The BIOS set-up screen (see your PC manual for details) allows the drives to be configured ready for formatting, but you also need to adjust some settings on the drives themselves.

IDE drives work as "master" and "slave", so you must set one drive's jumpers so that it's the boss, and the other so that it's the dogsbody. The order makes little difference, but it's important to get the jumpers right or both drives might appear to be malfunctioning.

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Telephone: 0121 352 0847

Info Freako

Internets, Bulletin Boards

and Information Superhighways; the comms revolution is in full swing. If you feel left out, then good, that's the idea. You should be in cyberspace with us as we swap mail, programs and pictures of Anna Nicole Smith!

It won't necessarily cost you an arm and another limb either, and that includes telephone bills. Unless you live somewhere, erm, awkward, there should be a local site you can dial into.

The piece of hardware you need is the excitingly named modem, and you can get two sorts: those that fit inside your PC (and take up an expansion slot, but work ever-so-slightly faster and cost less) and those which connect externally (and take up a serial port, but have lots of nice red lights and a volume control).

The choice is yours, but if in doubt I would recommend an external version as I get very bored very quickly experimenting with IRQ jumper settings first thing in the morning.

Modems come in different speeds, and obviously the faster the better. A few years ago we all foolishly thought 2,400 baud (that's roughly 240 bytes or characters a second) modems were "far out" and "cool". These days a 14,400 baud modem is the minimum and 28,800 recommended.

When shopping, it's generally a good idea to stick to modems which have BART approval (ie one with a green sticker underneath) as strictly speaking it's an offence to use one which isn't. Also, the un-approved ones sometimes behave a little roguishly with the UK Comms network (especially detecting busy tones) which can be a nuisance.

All decent modems come with an added extra: a fax machine built in for free, gratis and for nothing. No kidding, with the software supplied you can take documents from your word processor and fax them directly to any other fax machine. You can also receive faxes and display them on-screen or send them to your printer. This is all possible because the majority of the chips used in a modem have a lot in common with the contents of a fax machine and so it's not a particularly hard thing to do.

PACE MobilFax 144

Pace • Tel (01274) 532000 • £140

You can hold it in your hand, and it feels so good you will want to again and again. Odd behaviour I know, but the MobiFax is really cute as far as external modems go.

It works at 14,400 baud and it is especially designed with the beginner in mind, so don't worry about lots of red lights indicating that "CS" is low, whilst "RX" flickers dangerously. There's a power light, and a light to indicate something is happening and that's it. You can even run it from a nine volt battery if you are on the move a lot (or don't have a spare mains socket). Recommended for first timers, especially those with portable computers.

Power Rating: 90%
Recommended!

I bet you have a 14" monitor,

right? It's the de facto standard alright, and almost exactly the wrong size for the majority of users. OK, so if all you are ever going to do is play *Doom* then 14 inches are probably good enough, but if you use Windows a lot, you need more space.

A 17" monitor or bigger is ideal, but they are still far too expensive to consider in most cases, for the moment at least. A 15" display is much more fun when you use Windows in a 800x600 display. Text is crisper, and you really appreciate what a difference it makes when you go back to a 14" and start to feel claustrophobic.

If you can afford to, get a monitor with electronic picture sizing. The monitor will remember the various frequencies and resolutions of the screen modes your PC chuckles at it, and will re-tune itself quickly and pleasantly, ie without any "ffzzt" noises.

TOP TIPS WIRED WORLD

With a modem you can explore the world from the comfort of your own armchair. All over the country you'll find Bulletin Boards run by dedicated, but otherwise sane individuals. These are totally free to use, and when you dial in you can send electronic mail to anyone else in the world for gratis through a network such as FidoNet. If the Bulletin Board has access to the Internet you can take part in thousands upon thousands of discussion groups.

If you are prepared to shell out you can spend between £10 and £20 a month and pay a company for direct access to the Internet via a dial-up connection. Using your same modem, and some free software you can send e-mail instantly to anyone else on the Internet, download software, log into remote computers and use the World Wide Web to display pictures and read hypertext documents on every conceivable subject. It's all very thrilling indeed, and if you want even more information you should get our sister magazine, *Internet and Comms Today*.

Zoom internal modem

Zoom • Tel (01734) 810600 • £90

If you want high speed at a bargain price, look no further than Zoom. A 14,400 internal modem is available for less than £100 and for this money you can probably risk a dabble with the comms revolution.

Buying a modem-on-a-card means no external power supply or serial cabling, and also a high speed 16,550 UART chip on board (older, slower UARTS present on the motherboards of some PCs can lead to problems with Windows programs and high data rates).

You will need to be able to set a jumper on the card (or at least know someone who can), but that's about it. As usual there is a big pack of software to sift through and a glance at INTERNET AND COMMS TODAY's list of Bulletin Boards will give you something to do with your evenings. A bargain price, but good turn of speed.

Power Rating: 85%
Recommended!



US Robotics Sportster 14,400

US Robotics • Tel (01753) 811180 • £140

It may look like the bastard son of an alarm clock and a stylophone, and it may be considerably smaller than you expect, but this is a great modem. It's cheap, it's fast, it's reliable, and those aren't three words you use together very often. The range (there is a 2,400 model which you should avoid) has recently been supplemented with a 28,800 model, so keep your eyes peeled for price reductions. The 14,400 model will cost about £140, and the 28,800 about £270. US Robotics also produce the Courier, which sings and dances and is about as good as you can get for £320. The Sportster is so good that I actually handed over money and bought one myself. How many reviewers can say that?

Power Rating: 95%
Recommended!





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FlightMAX £39.99

- Exclusive "Saturn Ring"
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- Extra Wide Base

(also available with Rebel Assault/Sam & Max sampler £49.99)

G-FORCE £64.99



- Flight Yoke or Steering Wheel
- Throttle Control
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Sound and

Does your PC sound like a 1950s Bakelite

receiver, but with less volume? You need some new sounds, my son, and the choice is wide.

For a start, pay attention to what you are listening to the sounds through. Even the most expensive wave table synthesiser in the world will sound rubbish through a naff pair of speakers. If you want impressive sounds, you need impressive speakers.

The best speakers are probably those connected to your hi-fi. Most sound cards have a "line out" jack which can be connected directly to the AUX input of a hi-fi with a suitable lead (normally a 3.5mm stereo jack plug to twin phone plugs available from most electrical retailers). Of course, the disadvantage of this is that you can't simultaneously listen to your Orbital CD and play *X-Wing* with decent sound effects.

Powered speakers are essential; but you don't need to go as far as to have a 50ft stack of Marshall amps on either side of your monitor. Normal hi-fi speakers (a) don't contain their own amplifier, and (b) aren't magnetically shielded to stop your screen from wiggling like a belly dancer.

A good set of self-contained speakers of about 4-8 Watts will cost at least £20. Also, remember to budget for a power supply unit or you'll constantly be buying batteries because you'll more often than not forget to switch off the speakers when you shut down the PC.

Powered speakers can also be plugged into the headphone socket of CD-ROM players to provide high-quality listening enjoyment; a good way to convince your significant other that a CD-ROM drive is

actually worth blowing the holiday money on.

Now to the expensive bit, the soundcard itself. Most standard soundcards are, well, OK. They include a bit of sound generation using FM (that's Frequency Modulation, pop-pickers) synthesis and some sample replay features. Fair enough, can't ask for more guv.

Oh yes you can! FM synthesis went out with the ark in professional synthesis terms. Instead we have "Wave Table Synthesis" which constructs sounds by joining together lots of incredibly high quality samples and passing them through modulators. This results in startling, realistic sounds without that chime-y synth sound.

PC soundcards with Wavetable synthesis have been available for a while now and all proclaim "16 bit sound!" This is the same resolution as CD audio, so you know it must be good. Many (if not all) of these cards conform to the General MIDI standard, which ensures that a guitar played on one soundcard doesn't trigger a flugelhorn on a different make.

Likewise, it keeps drum kits from getting confused by locking the bass, snare, hi-hats and others to exactly the right notes. This of course means that games software with General MIDI support will be able to provide musical accompaniment using the correct, high quality sounds. Naturally, the overall effect is a staggering improvement over old Soundblaster cards.

Soundcards also include the link to a CD-ROM drive, so pay particular attention to the sorts of interfaces provided.

Orchid Soundwave SCSI Kit

Orchid • Tel (01256) 479898 • £380

If you want to go the whole hog and update your PC to multimedia status, this kit from Orchid can solve all your problems in one go. Not only does it include a SCSI version of the SoundWave card, so you get all the great sounds and the DSP effects, but a Toshiba triple speed SCSI CD-ROM drive is included as well!

With the triple speed CD-ROM, accessing the silver disks is amazingly fast (over 510K a second) – faster than some hard drives I've used. This pack is a great way to update your system with enough goodies to keep you up-to-date for yonks (which is probably about six months in PC terms, unfortunately).

Power Rating 90%
Recommended!



Orchid Soundwave 32 Pro

Orchid • Tel (01256) 479898 • £TBA

Now we're talking... Wavetable synthesis is now a standard requirement of any decent PC system with great cards like this around. As well as emulating the SoundBlaster standard, and including the FM synth chips, the SoundWave includes 2Mb of samples to provide superb sound. The sounds are good enough to replace a lot of expensive dedicated MIDI gear.

The addition of a DSP (Digital Signal Processor) chip offers some real scope for fun. The excellent pack of bundled software includes some examples of the DSP at work, including some amusing pitch shifting effects. The DSP allows "Q Sound" recordings to be replayed to add much greater depth. Try playing *Doom* on a card like this to make the hairs stand up on the back of your neck. The only feature lacking is a SCSI interface, but Sony and Mitsumi CD-ROM interfaces are provided.

Power Rating 84%

Orchid Sound Drive 16 EZ

Orchid • Tel (01256) 479898 • £79 (inc free game for limited period)

Budget minded? Don't want to spend all your money at once? This 16-bit soundcard could be ideal, you skinfly. As standard, it's a SoundBlaster/Adlib card, although with twice the resolution of normal cards so the sound is actually quite good. When you can afford it, you can upgrade the card to full WaveTable synthesis and/or a SCSI-2 interface for attaching CD-ROM drives (Mitsumi drives are supported as standard).

The bundled software is terrific, and spectacularly easy to install into the bargain. The speech recognition software is great fun, and surprisingly accurate. Overall, a great card for first time upgraders.

Power Rating 90%
Recommended!

Vision



Graphics cards

are much more than simply electronic devices for getting images held in memory onto the screen of a monitor. Well, OK, that's a lie, that's exactly all they are, but there are a lot of differences between them.

Speed, colours and resolutions are the keywords. If your PC is an ISA bus system, the graphics will automatically be at a disadvantage, so if you already have local bus graphics on your motherboard, there will be little gained by trying to upgrade.

However, if your PC is a giant box of gaping slots, you've got it made. Cards do more to help your system these days, and most have accelerators in them which will speed up Windows drawing functions. Processors on the video cards themselves make opening windows and displaying menus a lot faster.

Unfortunately, these intelligent cards can actually slow down normal DOS use, but hey, so what?

TOP TIPS

MIDI MUSIC

MIDI MusicCards which have General MIDI support, and plenty which don't, provide a MIDI interface somewhere out of the back panel; although sometimes doubled up in the same socket with a joystick adaptor, electric blanket monitor and radio telescope link (the last two are lies). With the correct leads (oops, there goes another tanner) you can end up with the familiar 5-pin DIN sockets that make up the MIDI standard serial interface.

With a MIDI interface, you are freed from the PC soundcard market and can casually stroll through a hi-tech music store, safe in the knowledge that most of the kit on offer will connect quite happily to your PC. This means not only keyboards but MIDI sound modules (still known as "expanders" to some old folk), drum machines and lots of other bizarre stuff too.

The sound modules are of course synthesisers in a box (and wavetable ones at that) and come from names such as Roland, Casio and Korg. Guess what? Yup, many offer General MIDI support so you can chain them onto the back of the PC through your soundcard and use them with games.

Unfortunately, many cost more than the Wavetable PC soundcards, but often offer more and varied sounds. If you are into creating music rather than just listening to games then an external MIDI set-up is definitely the way to go.

Video cards aren't the only things

you can insert into your processor slots. By far the most fun items (and occasionally even the most useful) are the video digitiser and other image manipulation products.

A video digitiser will accept an incoming video signal such as the composite colour signal from a domestic camcorder, and convert it into an image which can be viewed on-screen. The image can be saved in a standard graphics format and included in your own Desktop Publishing documents, or loaded into a handy paint package to have a thick black comic moustache drawn over it.

Rombo MediaPro (plus) AVI

Rombo • Tel (01506) 414631 • £233
The name of this product keeps growing to match the new features that get added. Now, not only will it grab moving video files from video or any composite or S-VHS video signal, but it will display them in true colour in a full screen display up to 800x 600.

You can use the VGA buster software to get a standard TV/video compatible signal out to let you record your work to video tape. And all this with synchronised sound and the ability to save your production in AVI format so all your friends can watch... cool!

You'll need a compatible video card (note: machines like mine with video included on their motherboard are not likely to be compatible) so check before buying.

Power Rating 85%
Recommended!



Rombo PC TV Tuner

Rombo • Tel (01506) 414631 • £81
It's also possible to add a TV tuner on a card. With a system which includes a fast video digitiser. The digitiser receives incoming video, digitises it and then displays it in a re-sizeable window on the desktop. Not only can you grab stills from TV programs, but you can actually watch Neighbours while you type away at Minefield (hard to decide which is the more fun). With the extra clever software included, it's possible to extract teletext information and display it as though you had a remote control in your hand making "bleep" noises. With teletext access you can achieve all manner of things: automatic clock setting, automatic news retrieval of stories you are interested in, automatic annoyance at Digitiser – and best of all it's free as long as you have a colour TV licence.

Heart and

The heart of any computer system

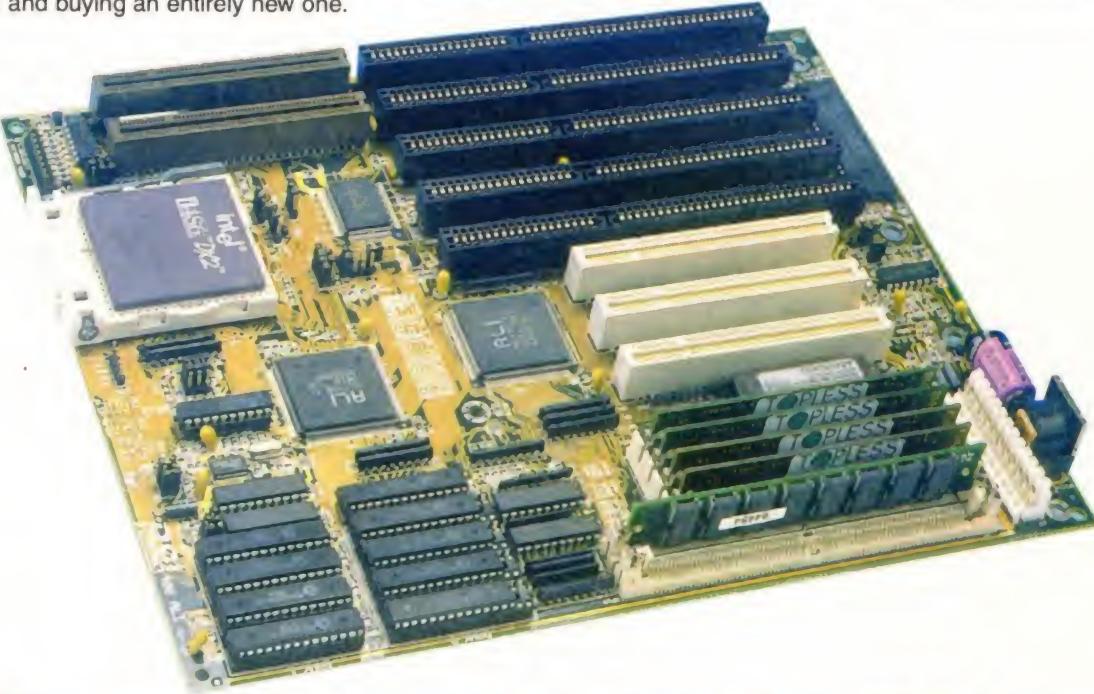
is the microprocessor. At the low end of the scale are the Intel 386 machines, which are now considered yesterday's headgear. Moving up the ladder we have the 486SX, and then the DX in a multitude of different clock speeds and internal processing rates. The difference a new processor makes to a system is staggering, especially if you are upgrading from a 386 to a 486, or from a slow 486SX to a fast 486DX.

If you have a 386, upgrading is quite straightforward thanks to those nice guys at Cyrix. Even the most sluggish 386 processor can be upgraded to ultra-fast 66MHz 486 systems for under £200.

If you are already the proud owner of a 486 machine, you can make use of the Intel "Overdrive" upgrades. It doesn't matter what speed your computer's motherboard was originally designed to work at because the speed-up happens inside the processor itself. The DX2 processor will speed up a 25MHz 486SX or DX to a 50MHz chip, and a 33MHz 486 to a 66MHz monster. Again, prices are around the £200 mark.

With more money to spare, the DX4 Overdrive will triple the speed on the processor; systems originally running at 25MHz will operate at 75MHz, and 33MHz systems will run at 100MHz. These chips are available at under £400.

If you have an elderly 386 (or worse) you might want to consider cutting your losses and upgrading your entire motherboard. This needn't be as frightening as it sounds as you can pick up a new board for less than £100 which can be fitted with top of the range 486 or Pentium processors. All you need to do (yes, well, it's a bit more tricky than that!) is strip down the entire computer, remove all cards and memory chips and swap motherboards. If you have a more integrated system (for example, a Compaq Presario) which includes graphics and general I/O on the motherboard, you will also need to budget for new cards to provide these facilities, and a new box to put them all in. In these situations you might be better starting from scratch by selling your existing system and buying an entirely new one.



Older motherboards use the ISA bus

standard for adding peripheral cards such as sound and video, and these days ISA is considered past it. In fact, you will probably be unlikely to buy a new computer which features nothing but ISA slots; and if you could, you should avoid it. In the place of ISA we now have two new contenders: VLB (VESA Local Bus) and PCI (Peripheral Component Interconnect).

The term "Local Bus" means that the processor has direct access to the bus and therefore the card, without lots of faffing about. As a result, VLB is much, much faster than ISA, a fact that becomes especially obvious when using high speed devices such as video cards.

Adding more than one VLB card can be a problem though, which is one of the reasons why Intel came up with the PCI bus. PCI is very Pentium friendly and also allows multiple cards to run in a "near local" mode. However, computers using the PCI standard are still relatively expensive so unless you are looking ahead to yet more expansion, VLB should suffice. Interestingly, PCI cards should work on different computer platforms which conform to the PCI standard, not just PCs.

TOP TIPS

STATIC

Ever felt a shock when you step out of a car on a sunny day? Or when you walk across the office and touch a metal filing cabinet? That's static electricity: your body has built up a charge and when you touch something conductive (the car body, the metal office furniture) the charge flows to earth. Although the charge is of the order of several thousand volts, there is very little current so you are in no danger.

However, computer chips are. The high voltage causes the tiny conductors to explode and the chips can be destroyed permanently. Unless you have a fantastic shrinking machine which can reduce your own size (and that of a submarine and Raquel Welch) to enable you to travel inside the chip and perform some on-the-spot repairs, you are in trouble.

So it's very important to avoid building up a static charge when handling add-on cards, or when looking inside your PC. You mightn't be able to wear a black rubber strip from your bottom to the ground, but you can wear a special bracelet which consists of a ring around your wrist connected to a nearby Earth (for example, a radiator). Any charge you might build up is discharged immediately and you are in no danger of zapping anybody.

If you don't fancy wearing an earthing bracelet, you should earth yourself as often as possible. This can be done by touching the metal casing of the computer or a metal window frame or basically any piece of metal that is tenuously connected to the Earth. The golden rule is: "Don't whizz around a nylon-carpeted room whilst sitting on an office chair with plastic wheels and then pick up a Pentium using two balloons you've been rubbing on your woollen jumper".

Soul



These days most

PCs come with at least 4Mb of Random Access Memory (RAM) fitted as standard. With 4Mb you can do quite a lot: run several programs under Windows, play games and use most applications. However, that's not to say you can run things particularly quickly.

Windows (and in fact most operating systems) use what's known as a "virtual memory" system, whereby pages of memory are copied to the hard disk to make room for more. When using Windows with 4Mb and several programs at once you'll hear your hard drive clattering like a Spanish dancer on acid.

As you might expect, this copying process will slow Windows down quite a lot, so it's worthwhile adding another 4Mb to make its life easier.

A suitable 4Mb SIMM will cost about £100 to £140, although if you can get a guarantee it is worth looking around for second-hand modules (as long as you can verify that they haven't been nicked, that is).

Ever loaded a game and got

a "not enough memory" error? Well, that's nothing to do with the amount of memory you have installed, it's the dreaded MS-DOS 640K limit. Adding another 4Mb won't make a shadow of difference, what you really need to do is look through your CONFIG.SYS and AUTOEXEC.BAT to remove memory hogging programs.

However, adding more memory to the standard 4Mb is definitely a good idea if you want to speed up your graphical user environment. In fact, 8Mb is a good minimum memory limit to aim for.

Memory is available in the form of SIMMs or "Single In-line Memory Modules". These are tiny circuit boards with the memory chips surface-mounted onto them, and adding them is a lot easier than poking around with individual chips.

SIMMS are available in a variety of sizes, but 4Mb and 8Mb are the most common. You can buy one and upgrade your PCs memory in a matter of moments. SIMM sockets are easy to spot; they are long and usually black or white, with a line of connectors at the bottom. The SIMM clicks into place (held by little clips at either end) and when you re-boot your computer you'll see more memory present at the memory check.

Your computer's manual will indicate which type of SIMM you need (probably 72pin) and the speed (probably 70ns or better) and where to install them on your motherboard.

Older computers may use 30pin SIMMs and require you to complete them a bank at a time, so you may find you need to buy SIMMs in fours.

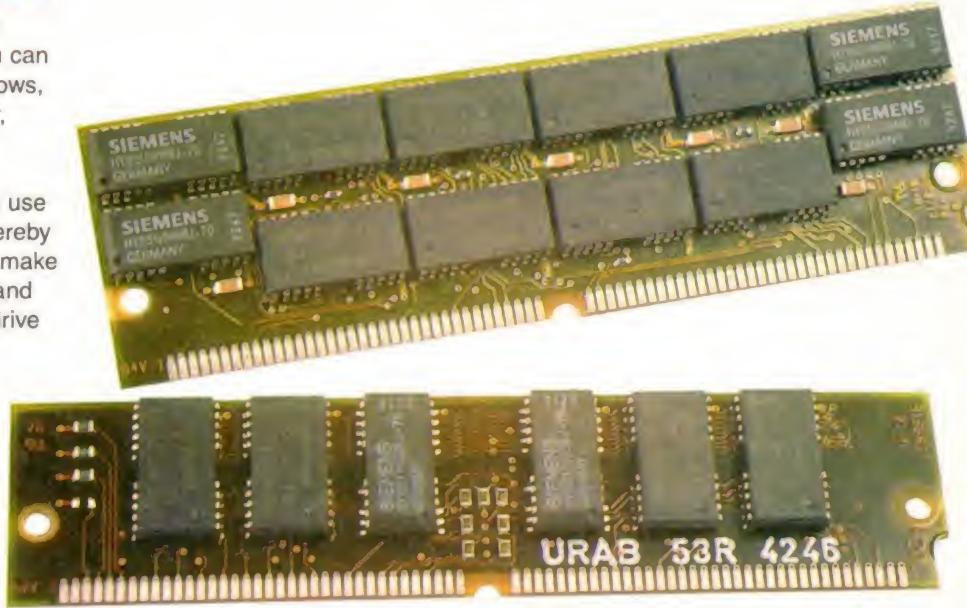
Few things cause so

much debate or invoke fanaticism as much as the choice of operating system. All PCs come with ready to use Windows, but there is no reason to stick with it. "Consistency is the hobgoblin of little minds", someone once said (to the puzzlement of everyone nearby). There are two viable alternatives, both available on CD-ROM format to try and ease installation.

The first is IBM's OS/2 – the true 32 bit operation system that was supposed to wipe the floor with Windows but, despite one of the most expensive ad campaigns ever, has so far failed to do so. There is no denying that it is much prettier and more fun to use. And you can run all your existing Windows applications.

Secondly, for those with the desire to sacrifice long portions of life, is LINUX: the UNIX clone for 386 and 486 PCs. Yes, it's true – anyone with at least 4Mb and a lot of hard disk space can now run UNIX and that includes a version of the amazing X-Windows graphical user interface.

UNIX is the grand-daddy of multi-tasking Operating Systems, and just about every form of program is available to run under it, usually totally free. Heck, you can even run *Doom* under UNIX. Linux is available from Lasermoon on (01329) 826444



CONTACTS

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Thanks to Jeremy Young for risking his PC in the cause of experimenting with stubborn cards.

the flashing **BLADES**



If there's one thing Digital Integration are damn good at, it's flight sims of every shape and form. Remember, this is the company who brought a Tomahawk attack helicopter into our living rooms, complete with realistic controls, and air dynamics so advanced that many thought it was a direct conversion of a military simulator. When was this? 1985, and on such lowly machines as an Amstrad PCW8512 and a ZX Spectrum.

Over the years DI became the name for state-of-the-art simulations that looked fairly primitive by today's standards, but delivered playability and realistic situations in spades. However, since the halcyon days of old many pretenders to the throne have tried to muscle in on the flight sim market, with considerable success.

US Navy Fighters is without doubt the most realistic and enjoyable modern jet fighter sim on the PC today, and even in this issue Keith is raving about the helicopter games *Ka-50 Hokum* and *Comanche*. Is there room for the old master to make a comeback?

This is exactly what PC Power asked when it visited Digital Integration this month and talked to managing director, Dave Marshall, a man who is to flight sims what Nigel Mansell is to motor racing (and no I don't

mean an ageing has-been).

Although quiet since the days of *Tornado* (still a top notch game which for the technically inclined virtual pilot), DI are about to rise again with two games for 1995. The second game to arrive will be *Tornado 2*, but much sooner than that is *Apache Gunship*. And we think it's guaranteed to turn a few heads.

As a helicopter simulation *Apache Gunship* faces stiff competition and without looking at the graphics, it is difficult to see where the edge lies. It features 20 different missions including Yemen, Korea and Cyprus (not the most explosive confrontations imaginable), multiple views, and a huge campaign mode with completely multi-pathed storyline which changes depending on how well you are doing.

The major task in producing a realistic helicopter simulator which flies slowly and is used for nap-of-the-earth operations is generating a realistic landscape with very high object density and detail, in order to give a good sensation of speed. A full relief landscape with extensive use of texture mapping and Gouraud shading is being used to achieve this.

In addition to state-of-the-art graphics, the product will offer comprehensive gameplay options. The aim is for the product to appeal not only to traditional hard-core simulator users,

but also to be more accessible and enjoyable to the non-enthusiast.

The graphics are generated using a new 3-D engine which takes advantage of running in protected mode to significantly increase the map area, object density and detail. The full relief terrain, with large numbers of trees and other objects, is essential to provide cover for battlefield survivability and combined with ground texturing they give a good impression of speed.

Night, low-visibility and the night vision systems are included, as well as the TADS (Targetting, Acquisition and Designation) system, which allows a picture to be overlaid on the screen at 3.5x or 6x magnification. The panels and windows bars are all texture mapped onto polygons to allow full movement of the panel. Normal sprite based panels may be included.

The missions are incredibly varied and involve such situations as attacking enemy helicopters, battlefield support, search and destroy (selected enemy vehicles such as SCUDs, SAMs, trucks, trains and submarines), tactical support, anti-ship and seaborne raids using the Sea Apache.

Apache Gunship from Digital Integration will be out sometime in the summer, and PC POWER will have the full review soon.



Remember that small and unassuming game, *Tornado*? You do? Well Digital Integration are about to unveil their latest flight sim based on the Apache Gunship, and it promises to be bigger, better and even more accurate – in short, it's the next best thing to actually piloting the damn thing yourself. Derek Dela Fuente straps himself in...

W

hen PC POWER looks at a new game, we don't just talk to the programmers, we go right to the top. Derek Dela Fuente interviews Dave Marshall, the driving force behind DI.

PP: First a Scenario...

DM: Right, *Apache Gunship* is our next full priced flight sim based upon the helicopter Apache. It will represent a state-of-the-art flight sim and have a number of missions: single, three real geographical areas, plus a training area.

The real world areas will include Yemen, Korea and Cyprus. You have 20 single missions in these combat zones plus a campaign in each. The campaign has a storyline running throughout it whereby, depending upon your progress, you will weave your way through this storyline but it is designed as such that the storyline can vary whenever you play it. It is a multi-pathed storyline which unfolds depending how the player plays it and how successful they are!

PP: Why, yet again, go for the Apache helicopter – the sub-

ject of lots of other "copter sims? Surely one of dozens of others would have provided a breath of fresh air into this area? This would have also prompted a change in scenario and mission types. For example: The Bell Sioux in Korea, the Huey in Vietnam, Sea King in the Falklands.

DM: Right, well we kept an open mind initially as to what helicopter it was going to be. We particularly wanted to do a helicopter simulation and we thought very long and hard about which helicopter to choose and those you mentioned came into consideration but at the end of the day we wanted a helicopter that was exciting, technologically up-to-date and gave a really good spread of gameplay options.

Now although the Apache has been covered in *Gunship 2000* which was a good product in its day, it's several years old now. Apache Longbow is based upon the Longbow version of the Helicopter which is significantly different in terms of the onboard avionics from the original Apache so you have got multi-function displays on the instrument panels.

Technically it is a far more exciting and challenging helicopter and suddenly all the helicopters you have mentioned are really becoming old and long in the tooth and really don't offer much in terms of technological excitement that the Longbow does, which we are using. In all fairness *Gunship 2000* did not cover the Longbow in the depth that *Apache Gunship* will.

PP: What principle improvements have been included that would make a *Gunship 2000* player drop that game and pick up *Apache*?

DM: You have the latest Apache helicopter, the AH-64D. It is much more interesting from the gameplay point of view because it allows the passing of information from other helicopters. It is a multi-helicopter scenario we have in our program, so what you can look forward to is more variety in gameplay, up-to-date helicopter, up-to-date systems onboard, certainly up-to-date graphics. You also have Gouraud shading, light sourcing, etc, that you did not have in *Gunship 2000*.

A state of the art CD ROM sim! I believe it is the first prod-

uct to give such a high density of objects in such low altitude. The most important thing about a helicopter sim is to give an impression of flying or a sensation of speed whilst you are flying relatively slowly – typically at 150 knots – but at low altitude and if you do that in a real helicopter you do get a good sensation of speed and to achieve that on a PC you require high density of objects and ground texturing.

With a variety of missions and a storyline that can adapt itself with the progress of the player you have a wholesome product. You may play the same campaign many times but the storyline will be different and weave itself accordingly in many directions.

PP: Have you implemented single player "team" play. That is, you commanding or being part of a squadron and launching a campaign as a group or squadron? If so – how?

DM: In the single player option there are single player multi-helicopter missions but that is quite typical for a real helicopter so you will have a minimum of two helicopters flying on a partic-



McDonnell Douglas AH-64 Apache and Sea Apache



It is interesting to note that many helicopter-based products released to date have offered a choice of several types of helicopter. Although this adds "perceived" value, it often results in a compromise, with no one helicopter being particularly well portrayed. In our experience, products based upon a single type give a much more comprehensive and convincing simulation of the very highest quality. The opportunity to introduce additional helicopter-based products to the range will also maximise return on the original development.

The Apache's auto-stabilisation system makes it an easy helicopter to fly.

ular mission. You will have single player multi-helicopter missions where they are interacting with your wingmen.

It will also cover multi-player options also with various options where you can play divisional one on one player versus the other player. You can have the two players sitting in the same helicopter – front seat, back seat option. We have a new feature that is the facility to link several machines over a local network so you can have several players co-operating together.

PP: You mentioned changes in the interface. Can you explain the problems you encountered which lead you to concentrate upon this area and what improvements you have made in this area? Also, why are these changes better than what has gone before? Some changes are different without actually improving anything.

DM: What we are offering is a comprehensive number of options particularly in the mission planner. We found from feedback from customers that it could be a somewhat overwhelming number of choices and options that you are presented with and what we have tried to do is to try and retain that type of depth of options but presented with fewer, so the more you learn about the game the more the options become visible and you are not overwhelmed from

the moment you see the mission planner.

For example, with 15 buttons down the right hand side. The interface is simplified so the options are minimised depending how deep you get into the product. We have tried to reduce the problem of overwhelming the customer with a vast number of options.

Secondly, we have purposely tried to draw the customer, pull them through the game rather than leaving him to decide where to go and what options to take. The learning curve is much shallower and it is easy to get into – quickly! So you are not faced with a huge manual to be able to get up and go without losing any depth!

PP: Do you plan to link the DI games in with Spectrum Holobyte's long term plan to network all of their sims into one large on-line game? That is on a physical coding level.

DM: We certainly intend to be able to link several DI products in succession to *Apache Gunship* but there are no direct plans or links specifically into Spectrum Holobyte's domain. In the future, you will be able to link our games together so you will have several players in different types of vehicles playing within the same scenario!

PP: How much research goes into each of your programs

The avionics are straightforward with the Hellfire missiles and the gun being aimed and locked on to the target using the helmet-mounted sight. This means that the player will become comfortable with the product and start completing combat missions very quickly.

The Apache's primary role is destroying battlefield armour with its aim-lock-and-fire approach making for very exciting and interactive gameplay, especially as this is occurring in a heavily defended area. The helicopter's manoeuvrability and high performance means that air-to-air combat is very competitive.

all there are about 10 people working on the product.

PP: Will we ever see a change of direction from DI? Any thoughts on expanding and how many people work full time at DI?

DM: We shall stay very much in the forefront of high quality, high end flight simulations which is our core business. Apache represents our first attempt to broaden the field from the simulation enthusiast to the broad spectrum of game players. We are at present recruiting for expansion and so you will eventually see three products a year from us as opposed to maybe one. No adventure, etc.

PP: Lastly your thoughts on the current crop of sims programmes/machines. Do you not feel that most are of such a high standard that it is hard to choose between them and there really is nothing new on offer?

DM: We shall be looking towards all the new machines. The Power PC is very interesting and, of course, the Mac. The current crop of sims on CD are geared very much towards air combat and one of our particular strengths is air to air to ground combat. I do not see we have reached a limit to what you can offer the customer particularly on CD-ROM. This medium opens up a great new area. □



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PC POWER

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TIE Fighter Defender of

Andy McDermott dons black cape and crash helmet to chortle "You rebel scum!" one more time with the first mission disk for *TIE Fighter*.

What the Empire needs most urgently, more than yet another Death Star or a squadron of Star Destroyers, is a PR overhaul. A team of Saatchi clones would go a long way toward counteracting the lies of that floppy-haired farmboy, Luke Skywalker. Simply mentioning that the Rebel Alliance employs Cliff from *Cheers* as an officer (see *The Empire Strikes Back* for proof) would have the general populace of the galaxy lining up behind Darth Vader in no time.

Last summer's *TIE Fighter* went a long way toward boosting the Empire's image as a caring, sharing, Nineties kind of organisation, and *Defender of the Empire* continues the process of

historical revisionism. The two disks in the package provide additional episodes which, following a painless installation, appear after the regular *TIE Fighter* missions.

For the benefit of anyone out there who doesn't know about *TIE Fighter* (hello, McFly, anyone home?), the game is set in George Lucas' *Star Wars* universe, and takes place between the events of *The Empire Strikes Back* and *Return of the Jedi*.

As a rookie TIE pilot, you have to not only deal with the starfighters of the Rebel Alliance, but also assist in police actions against smugglers, help establish bases and safe shipping lanes, and, as you join a

shadowy secret society dedicated to serving the Emperor, uncover treason within the Imperium itself. Ultimately, you get to fly alongside Lord Buckethead himself, Darth Vader, to help crush both the rebellion and assorted traitors.

Neat and TIEdy

Defender of the Empire follows on from there, with the treacherous Admiral Zaarin amassing Imperial forces behind his banner in an attempt to overthrow the Emperor and establish himself as ruler. His plans depend upon obtaining examples of the Empire's latest weapon – the TIE Defender, the spacegoing equivalent of a tooled-up Dodge Viper.

You start off in one of these nifty new ships, which are more than a match for anything unlucky enough to fly in front of your gunsights. Unfortunately, as the missions progress, Zaarin's forces manage to obtain the same vessels, despite your best efforts...

As *Defender of the Empire* is essentially a mission disk, there are very few changes made to *TIE Fighter*'s basic program – the only obvious ones are the fact that you can now access the TIE Defender in the Combat Chamber, and the presence of the additional missions themselves.



HD REVIEW

Most of the early missions revolve around Zaarin's attempts to half-inch advanced Imperial technology so he can construct more of the GTI versions of the Empire's famous fighter. You, of course, are in the front line of the Empire's defence.

The Defender offers a few new tweaks over its predecessors, the most obvious being a tractor beam that allows you to ensnare

A team of Saatchi clones would go a long way toward counteracting the lies of that floppy-haired farmboy Luke Skywalker...

and slow down enemy craft, making them easy meat for your massively powerful quad lasers or missiles. All this, allied with its exceptionally cool looks, make the Defender the only choice for the image-conscious pilot. You'll never want to go back to the ratty old bog-standard TIE Fighter again.

TIE a yellow ribbon

Gameplay is unchanged from the original game and each battle has a number of mission objectives which must be achieved to avoid a severe telling-off from your commanding



Mission paused. Press any key to continue.

The treacherous Admiral Zaarin's forces attempt to raid a TIE manufacturing space station in order to lay their mitts on the new TIE Defender.

TIE ME UP, TIE ME DOWN



TIE FIGHTER

The basic wooden spoon ship, fast but with no shields.



TIE INTERCEPTOR

Improved armament over the basic model.



TIE BOMBER

Sluggish, but loaded down with weaponry.



TIE ADVANCED

The first TIE with shields and hyperdrive. Very fast.

the Empire

ALTERNATIVES


X-WING

US Gold • £44.99 • NR
More primitive than *TIE* – look for the new CD edition.


INFERNO

Ocean • £44.99 • 86%
Good, but lacks the Star Wars atmosphere.


WING COMMANDER 3

EA • £44.99 • 93%
Hamill-tastic action for ninja PC owners only.



officer. Usually, these objectives involve blowing stuff up, but you may also find yourself escorting ships to safety in the face of hostile fire, or disabling craft so that their cargo or passengers can be captured. As well as the orders issued to you by your commander, you may also have orders issued by your mysterious mentor from the Emperor's secret society.

Sometimes, the two sets of orders conflict – for example, your commander may want you to destroy a particular ship, while the cloaked chap would prefer it if you were to disable it and capture its crew for interrogation. Advancing through the ranks in both organisations is dependent upon you walking the fine line between both sets of objectives.

The battles look as good as they did in *TIE Fighter*, running exceptionally smoothly, even with all the detailing, on a 486-66MHz, and perfectly acceptably on a 33MHz once the background planets and galaxies were turned off. I'm informed that things start to slow down on a 386, but since the white-hot crucible of technology that is the PC POWER office is devoid of such steam-driven antiques, I couldn't confirm this.

No admission without a TIE

The new missions are noticeably more difficult than the originals, because the enemy ships, while generally less powerful than your Defender, are still pretty hot stuff. The TIE Advanced, for example, which appear with

frightening regularity, are particularly hard to hold in your gunsights. Just as well you've got that handy-dandy tractor beam, eh?

This level of difficulty, unfortunately, seems to be the main way of preventing you ripping through the missions – there aren't that many of them. Zaarin's coup is crushed fairly quickly, so the later battles are mainly mopping-up operations. The coup also means that the Rebellion plays only a minor part in the game.

This might not seem such a problem – after all, there's still plenty of action in the space battles – but it does mean the game loses part of its original appeal. A great deal of the fun of *TIE Fighter* was in being the black hat (or helmet, if you prefer) and hammering the crap out of those squeaky-clean Rebels in their clunky old ships, making the galaxy safe for fans of natty charcoal uniforms and wall-mounted strip lighting every-



A squadron of TIE Advanceds leave a frigate to begin their patrol.

where. *DOTE*, on the other hand, has you facing off against your own TIEs most of the time, which you could do just as easily in *X-Wing*.

For rabid fans of *TIE Fighter* who've completed the original missions, *DOTE* will be an essential purchase. For the less fanatical, however, a cool new ship and a bit of political intrigue may not be enough to justify buying. The Dark Side might be attractive, but not that attractive. (D)



The star of the game, the TIE Defender, lurks in its launch bay.



Failure in your mission results in medical attention – or a funeral!



One of the Emperor's sinister minions (top), and the big man himself.



ASSAULT GUNBOAT
A heavily armed and well-defended TIE alternative.



TIE DEFENDER
Pride of the Imperial Navy, a match for any starfighter.

DEFENDER OF THE EMPIRE

Publisher
LucasArts/Virgin Interactive
Tel: (0181) 960 2255
£19.99

Minimum System
386-DX33, 1MB EMS, VGA graphics card, 15MB hard disk. Joystick required. All major sound cards supported. Requires *TIE Fighter* to run

For
Smart new ship
Additional missions
Another chance to play the bad guy

Against
Vastly increased difficulty
Not that many new battles
If I wanted to blow away TIE Fighters, I'd buy *X-Wing*...

80%

HD REVIEW

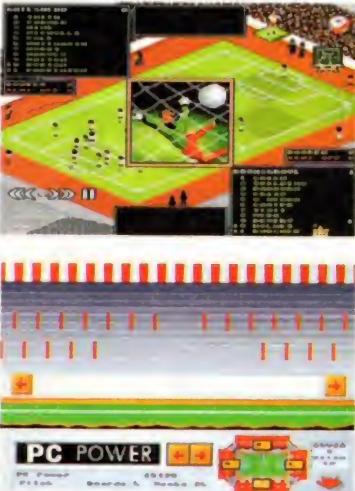
Premier

Leaping up from his place on the substitutes' bench, Keith Pullin dives into the seedy world of drugs, gambling and hidden cameras. That's right, it's the latest footy management game.

OK, so I lied. There's no drugs and only one camera view, but successfully taking a non-league team to the very pinnacle of European football requires calculated gambles. *Premier Manager 3* is a serious footy management sim and if you're into arcade football, get out now. A finer pedigree you could not hope to find, but has this sequel cured the hamstring injury of the first two? Or is it just a case of a new kit and seating for the crowd?

You start off by choosing which Vauxhall Conference team you wish to manage – all of them abysmal, so it doesn't make too much difference which one you pick.

Once you've resigned yourself to fate, it's time to warm your players up by arranging a couple of friendly matches. British and



You always get the best adverts at Pullin FC! This one takes up four boards, others might cover only two or three.

ALTERNATIVES



CHAMPIONSHIP MANAGER
Domark • £29.99 • 91%
Ultimate footy manager.



ON THE BALL
Ascon • £39.99 • 86%
A more visual management game, but superb.



FANTASY MANAGER
Anco • £29.99 • 72%
Good adaptation of the Friday evening show.

DO WE NOT LIKE SHEEPSKIN COATS?



- 1 Load or save.
- 2 Change some of the in game options like sound.
- 3 The transfer market is the key to building up a successful team.
- 4 Improve your stadium.
- 5 Arrange advertising and sponsorship.
- 6 Choose your team and set out your tactics.
- 7 The management history shows all your successes and near misses.
- 8 Wander down to the Job Centre to hire new scouts, physios etc, and then set the training schedules.
- 9 Phone other managers for news on players around the league.
- 10 League tables and team form guide.
- 11 Still in the cup? Look here.
- 12 Urgent messages will arrive by fax.
- 13 Check the club finances – you might need a loan.
- 14 Kick off!

European teams can be challenged, but the annoying thing is you must always play away from home. After that it's off to the main menu, to get down to the real nitty gritty of managing a football team.

The first thing you need to do is cast an eye over your squad. Check how many goalkeepers, defenders, midfielders and attackers you have, and then decide which are not worth

keeping and sell them. The best way to do this is to examine each player's attributes such as handling, tackling, passing, shooting, heading and control. The maximum value is 99, with the worst being one. Suffice to say, if a player is proficient in none of these, sell him quick because he's John Barnes!

Bust the bank

Buying players is an even more traumatic experience, but remember you can only get them from other conference teams or at best, a third division team. Let's face it, a top player for Man United is hardly going to be swayed by the wonders of Pullin FC, even if he does get his own dressing room.

Actually convincing a player to sign is quite a challenge and there are four factors to consid-

er: the fee you're offering the club? How much the player will receive? What weekly wage you're offering? How long the contract for?

I bet you thought it was just a case of waving seven million

There's no point paying ten grand a week for a Gazza if he's always in a wheelchair...

quid in front of a manager's face and saying "give us your best player matey" – no way! Getting the player you want can often take months of intense negotiation and this degree of realism is what footy management games are all about.

Manager 3



Individual players have certain skills that others may not have. Fine tune your players so the whole team fits together perfectly. It's like a jigsaw puzzle.

With Roy of the Rovers in tow it's time to get him insured (no point in paying ten grand a week for a Gazza if he's always in a wheelchair) and hire some extra people to help you run the club. An assistant manager to embezzle your money, a coach and physio for the players, and not forgetting a team of talent scouts to scour the land and discover an unknown Klinsmann, Cantona or Giggsy playing for a Sunday boy's league. And then of course you've got to renovate the pitch and stands. It's all in PM3 – believe me, you could not ask for more detail.

Formation football

With the players and staff in place, sorting out tactics comes

next. The blackboard is absolutely packed full of formations. If, for example, you have a lot of deadly attackers then it would be wise to play a strategy which involves them all, such as 4-2-4. On the other hand, you might like to play just two of them in a 4-4-2 formation and then introduce one as a 'super-sub' later in the game when the opposition's defenders have run themselves into the dirt.

You may find your team leans heavily towards defence, in which case you could just set up a wall of players to block the other team, a 5-3-2 formation would be suitable, but means you hardly stand a chance of scoring yourself.

Basically, choosing the right

strategy is the whole key to being successful and you must consider the strengths and weaknesses of whoever you're playing, whether the match is home or away, the weather, and even the morale of your team – if stuck in a losing streak, you'll most likely lose to even the shoddiest of teams.

One unique feature of *Premier Manager 3* is the way you can fine-tune each player's style. For example, if you notice a player has no passing skills whatsoever you can order them to boot the ball as hard as they possibly can straight up the pitch. Likewise, if you see a player has exceptional ball control you can instruct them to run with the ball and take on players. It's an extremely flexible system leading to infinite tactical possibilities.

A top player from Man U is hardly going to be swayed by the wonders of Pullin FC...

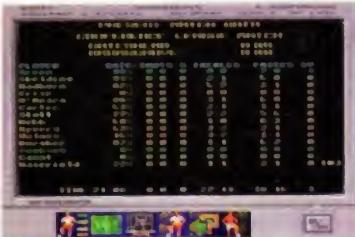
Kick off!

With all that done you can now kick off! The match is viewed using a 3-D isometric pitch and the home team are always shooting upwards. The speed of the match can be controlled with a set of arrows on the left hand side, and there's also an icon which changes the players to numbers, or you can even choose to have just the ball visible on the pitch.

At any time, you can bring up a screen that shows how your team is performing, and you can make a maximum of two substitutions accordingly. Sending offs, bookings and goal scorers (with the time) are all clearly visible and a constant match commentary is shown at the bottom left of the screen. Overall, it is a vast improvement on the previous games' use of animation boxes to convey the match action.



This view of the match lets you know exactly where the ball is at all times. If you want more detail though – click on the blackboard for some expert analysis.



This tiny ground will soon look like Old Trafford. Well, give it ten seasons!

At first you can only enter the FA Cup, but as you progress, the League, Cup Winners, UEFA and European Cup all beckon.

Every game is logged in a massive database giving you instant access to the scores of every match you've ever played, and you can also glance at your record which gives you a list of all cup and league successes.

All this and much more make for one of the most concise football management games ever, but I can't help feeling that while *Premier Manager 3* has the options, Domark's *Championship Manager* still beats it for tension and realism. It's a tough choice though, and *PM3* is undeniably superb in every respect. **10**

PREMIER MANAGER 3

Publisher
Gremlin Interactive
Tel: (0114) 275 3423
£34.99

Minimum System
386-33 SX, 4Mb RAM, 256 colour VGA.
Mouse recommended. Supports all soundblaster and Adlib compatibles

For
Highly addictive
Covers almost every aspect of football

Against
Tricky to begin with
Only appeals to football fans
Basic graphics and sound

89%

Superski Pro

Skiing is a sport that I've never tried. The nearest I've got to a ski slope was watching the beginning of *The Spy Who Loved Me* – and, to be honest, I'm not particularly bothered. If I wanted to break a leg I'm sure I could find a speeding car to jump in front of, and visiting a ski resort puts you in grave danger of meeting Fergie.

However, the arrival of *Superski Pro* gave me a chance to experience the thrill of the piste without having to wear a big jacket in colours more luminous than the core of the sun. Would it inspire me to swap my airline tickets from the Caribbean to Cortina?

Ice scream

Nope. If real skiing is anything like the events presented in *Superski Pro*, I don't think I'll ever go anywhere more than three feet above sea level again. Presented in VGA more chunky than the almonds in a bar of Fruit and Nut, I started to get nasty flashbacks to *Winter Games* on the C64. You're given several gravity-implied events, all very similar, with a bobsleigh run thrown in to keep the vehicle fanatics happy.



00:00.00

You can use the mouse, keyboard or a joystick to control your hurtling international poseur. Not that it makes any difference, as steering in any mode is about as easy as guiding a supertanker into port by prodding at the stern with a drinking straw. See that flag? See that tree? Oof, I guess you have now... in extreme close-up!

Downhill, Slalom, Giant Slalom, Snowboard and Snowboard Slalom are all practically identical bar the graphics – ie, all repetitive and irritating. You'd get a better feeling of vertiginous speed if you simply sat too close to the telly while



watching *Ski Sunday*. Actually, you'd get a better feeling of vertiginous speed from *Songs of Praise*.

The Ski Jump and Bobsleigh events look better, but not much. The ski jump itself is built from textured polygons – the texture of hessian wall weave, admitted-

Superski Pro is presented in VGA more chunky than the almonds in a bar of Fruit and Nut...

ly – so you can view your stiff-jointed Eddie the Eagle from any angle, and the rendered bobsleigh run is spooled off the CD. Sadly, these graphical improvements don't extend to the game-play.

Snow use at all

The most impressive parts of the game are actually the intro and cut sequences, which probably says a lot about the producers' priorities. Even these are hardly



CD REVIEW

Woolly mittens ahoy! Andy McDermott heads for the hills.



00: 17.95

1 Some events allow you to compete head-to-head with a computer-controlled opponent. 2 The bobsleigh team are seconds away from an unfortunate mishap. 3 Eddie the Eagle trundles down the ski jump. 4 Pick your method of bone-snapping from the 'huge' selection on offer.



stunning, though. The friendly neighbourhood ski instructor seems to be wearing a turban, and the commentator looks like Max Headroom, right down to the plastic suit, and has a voice tooth-grindingly close to that of the annoying gong from *Moviewatch*.

In short, *Superski Pro* was as welcome as a shouting contest in an avalanche zone. The events generate no excitement – the only rush they engendered was away from the PC. The best part of the game was the aprés-ski... when I returned to DOS and loaded up *Doom*. □



You thought Matt Frewer had retired, but how wrong you were!

ALTERNA-



WINTER CHALLENGE
Hit Squad • £12.99 • NR
Similar snowy action for less cash.



MIDWINTER
Kixx XL • £12.99 • NR
Skiing for survival instead of sport.



DOOM 2
id • £44.99 • 95%
Not a direct competitor, but much more fun!



00:57.73

SUPERSKI PRO

Publisher
Mindscape
(01444) 246333
£34.99

Minimum System
386DX-33, 4MB RAM, CD-ROM drive, SVGA graphics card. Joystick recommended

For
Well, there aren't many other skiing games around...

Against
Lousy graphics
Irritating speech
Unresponsive controls
A mere seven events!

38%

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SOFTWARE PLUS,
Britains largest independent
specialist retailer of
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Established
1981

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Wings of Glory



CD REVIEW

You Fokker!
Damian Butt
joins the 'twenty minuters' for a spot of Hun bashing in Origin's *Dawn Patrol* beater.

WI for the average foot-soldier in the trenches was, by all accounts, a bit of a dog. Endless misery, trench foot, rats and of course the odd insane dash into a hail of hot German machine gun fire was what most men faced when sent to the front. *Wings of Glory* tells the story of the first war in the air, very much like Rowan's recently released, *Dawn Patrol*, which is its only real rival.

Aircraft in 1917 were flimsy frames of wood covered in canvas and hurled through the air by a sturdy propeller driven engine. There were no missile locks, HUDs, chaff, loop the loops at Mach 2, or even simple things

like glass cockpits and ejector seats (even parachutes only came as standard on the GL models!).

Combat was... nobler, if not totally suicidal. It is this challenging form of seat-of-the-pants flying that *Wings of Glory* attempts to recreate, opting for a more arcade approach than *Dawn Patrol*.

Little Biggles Adventure

You begin the game as a young Canadian; drafted into the war to help the British and French RFC give Hans the Hun a good drubbing. Every mission is coordinated from the same farmyard base every day (complete with muddy



Multiple views allow you to see yourself or your wingmen from any angle. Here, Charles is seen pulling up sharply after almost crashing onto the town of Reimes.

airstrip, country lanes and small hamlet nearby) and it's easy to become quite protective of the old place, especially when it is threatened by Jerry bombing raids. Such emotions should not be applied to pixelated places, but you can't help but get engrossed in the thick wartime atmosphere.

However, before you even get to the full Super VGA in-game graphics you must first suffer the agony of conversing with a gaggle of jolly British chappies who hang around the common room and constantly stoke the boiler or drink endless gins.

Not since Dickie Attenborough in *Jurassic Park* has a Scottish accent been so mercilessly butchered as the one in this game, and someone please get that plum out of Charles' mouth before I stitch 'im one! The upshot of all this is that only the CO has anything interesting to say, whereas all the others take the chance to orate a lengthy monologue on the horrors of war. Touching the first time, but this soon becomes intensely annoying.

The visuals on the ground are well drawn and accurate (the planes in the hanger are meticulously detailed for example, but why do you have to stand so far away from the buildings when

you go outside?), and neat touches like the constantly updated kills board, a la *Wing Commander*, and the mirror where you can see how many medals you've earned, help to liven up what would otherwise be a series of mundane mouse clicks.

Once you've had a chinwag with Terry Thomas (the commanding officer), then chatted to Kenneth Williams and Scotty from *Star Trek* (sarcastic, moi?) you must take to the skies in your Sopwith Pup and engage the Germans point blank.

Not since Dickie Attenborough in *Jurassic Park* has a Scottish accent been butchered as mercilessly...

The flight engine is one of the best for this class of action I've ever encountered. Remember, we're not talking about an F-16 that's able to accelerate to Mach 3, stop on a dime and then whizz off at 90°, these old girls take an age to turn and dive and so you must be patient. In my case, it was like learning to fly all over again after a lifetime spent on *Fleet Defender*, *USNF* and *TFX*.

At the controls of a Pup, or even better, a new SE5a, you must ease the plane into shallow dives to get enough speed for



Take that and party! The Lewis gun atop the SE5-a tears open the frail shell of the German Zeppelin. Watch the flames engulf the craft as it plummets to the ground.

FACES, FACES EVERYWHERE



Your stern commanding officer outlines the details of each mission. He never smiles.



Charles is your typical English toff, complete with slightly sozzled expression and vacant look.



Lisette may be the WWI equivalent of Ursula Andress, but in fact she's a German spy, I think.



THE PLANE AND SIMPLE TRUTH



Sopwith Camel – light and with twin guns for extra firepower.



Spad XIII – better than your first Pup, but slow and cumbersome.



SE5a – brilliant red and with two guns, one on the top of the wing.



Fokker DR1 – the Red Baron's highly nimble and deadly kite.



ambitious climbs or tight turns. The ground is always only a sneeze away because air battles took place at only a few hundred feet in those days. Concentrate too hard on your ducking and diving opponent and not on the ground and you're asking for trouble.

You'd expect combat at these speeds and using such primitive machinery to be slow and boring, but in fact the opposite is true. Instead of locking onto a target who's 20 miles away and simply flicking a switch, you must hang onto your opponent's six like a limpet, matching his every move in a desperate effort to line up your gun sights and pepper him with your trusty Browning.

After ten or so minutes of close quarters dog-fighting with an ace German pilot my hands were sweating so much I could barely grip the joystick, but I was cursing his name and determined to be the one who made it home. Without the cold logic of today's computers, the air combat in *Wings of Glory* is a far more brutal and personal experience than any firefights against MiG-29s.

The most impressive aspects of this game are the stunning graphics, especially in SVGA mode, which many people with



Gorgeous close up graphics are one of *Wings of Glory*'s strongest points. Check out the detail on the enemy plane and the cockpit of your SE5a.

anything under a 486 DX-50 simply cannot experience with any degree of playability. You can turn down the detail, but should only fat cats with bulging prossessors have all the fun? Even my P60 was struggling to keep up when I was bombing towns or when more than five planes were in close proximity.

This is a shame, because the detail on the enemy and allied aircraft is incredible. Buzz that Fokker DH3 and you can actually see the pilot at the helm with his scarf blowing in the wind, and with a judicious piece of firing it is possible to take out the man (who screams, naturally) and watch the perfectly functioning machine plummet out of control.

Bye plane

Even more terrific is catching the enemy sleeping in your sights and letting him have it, pausing only to admire the sight as the

canvas rips away from the fuselage and the leaking fuel turns smoothly to the jet black death throes as your bullets find their mark. Can any latter day flight sim match this feeling of conquering one's opponent so utterly? No way!

With such jaw-dropping graphics, you'd expect the sounds to fall short, but I couldn't fault them in any way. The music that plays throughout is perfect for the time period and it also has the bonus of telling you when danger is near; speeding up to more frantic tones as the enemy attack and then turning to soft chimes once the mission is accomplished.

Sound effects too perfectly complement the game, with meaty machine gun raps, spluttering 'pocketa, pocketa' engines -and you can even hear the wings creaking if you push the old girl too hard.

Of course the sacrifice for such fluid arcade playability is realism, and perhaps having unlimited gun rounds is a bit of a cheat. But whereas *Dawn Patrol* became too cut 'n dried, *Wings of Glory* remains fun and intriguing, especially when you first come across a new threat like the huge Zeppelins which explode in true Hollywood style. Generally you can get away with a lot more hits in this game than



The common room is where you get to meet other pilots and view kill scores.

you could in real life, but that's fine by me, who wants to nose-dive into a field anyway?

In conclusion then, *Wings of Glory* is, in my opinion, better than *Dawn Patrol* for its sheer accessibility and lasting appeal. Instead of simply turning a page and going to a different battle, you actually live the life of an air ace; taking the rough with the smooth and (hopefully) living to tell the tale. The graphics are amazing (although the old Origin bugbear of ground distortion is still present) and features like the autopilot only serve to remove all those hours of flying across empty skies and dive straight into the action. This one is staying in my CD drive until armistice day and I highly recommend it to anyone who has forgotten what flying is really like. (1)

WINGS OF GLORY

Publisher
EA/Origin
Tel: (01753) 5494422
£39.99

Minimum System
486-33MHz, 8Mb RAM, 540K of conventional memory. CD-ROM drive, VGA, 15Mb disk.
Recommended: 486-66MHz, 16Mb of RAM. Soundblaster.

For
Highly playable arcade combat
Autopilot takes you straight to the action
Absorbing plotline with moody sounds
Plenty of different planes to try and crash
Highly realistic flight control

Against
Ground distortion when you get too close
Too simplistic for simulation fans
Enemy guns seem to be laser guided

ALTERNATIVES



DAWN PATROL
Empire • £44.99 • 78%
The closest thing to actually flying in WWI.



US NAVY FIGHTERS
EA • £44.99 • 94% PA
The best modern day flight sim in the world!



EVASIVE ACTION
Mindscape • £34.99 • 89%
Multi-player flight sim with loads of planes.

89%

X-Wing Collector's CD-ROM

X-Wing Collector's CDROM is an all-in-one package containing the original X-Wing and the two follow-up data disks; B-Wing and Imperial Pursuit. When X-Wing arrived for battle on the overcrowded simulation scene 18 months ago it was a shining star in a galaxy of stiff, WWII duds. Back then I wouldn't have thought it possible to improve upon such a masterpiece, but the popularity of CD drives has driven LucasArts to do just that.

If you're a Star Wars virgin then pay attention. The object of all the games in the 'Wing' series is to defeat the Empire during various reconnaissance, attack and defend missions. More often than not you fly to a certain waypoint, identify some enemy ships or Corellian freighters, then blast the crap out of anything beginning with "TIE". Strategy also plays a part in coordinating attacks using the different classes of Rebel fighters.

X rated

You start out as a raw recruit upon the Rebel flagship Independence. New to the sights and sounds of experienced star



Flying underneath massive cruisers will protect you from TIE-Fighter attacks.

fighters preparing for war you must overcome your innocence quickly in order to emerge from the conflict with the Empire as a hero.

It comes as quite a surprise then to discover that training is optional and you don't even have to endure one second of it before you launch into the first of 120 (!) missions against the Imperial Forces. I would recommend at least a few minutes familiarising yourself with the controls in the training mode, though, because even with a fully configured Flightstick Pro, you will still have to wrestle with plenty of keys in order to select shields, lasers and the plethora of exterior views.

X-Wing veterans will immediately feel at home, though, because all the controls remain identical and it is only the enhanced graphics and sound that come as a surprise (and a pleasant one at that).

TIE Fighter was unashamedly gorgeous to look at, with its shaded surfaces and perfectly detailed George Lucas-inspired surroundings, and the huge storage capacity of the CD means that now the humble X-Wing is brought bang up-to-date. Notable differences are the close up views of objects like the freighters and Star Destroyers, which are now resplendent with gunnery turrets and battle markings.

Sound is vastly improved and now you get clearly spoken mission briefings (by the same actor who supplied the voice of Ackbar



TIE Fighter pilots tend to have little regard for their own lives and excel at streaking head long into your X-Wing. Still, it makes for a scenic ride!

in Return of the Jedi no less), plus all the trademark TIE fighter whines, laser blips and intense cockpit chatter. Add to this acoustic feast a fairly decent rendition of the theme tune, cou-

You can create the perfect close-call action sequence which can be saved to impress friends, neighbours and members of the opposite sex...

pled with more mood music and set pieces on every intro screen and you've got the recipe for one of the most authentic film/game tie-ins this decade.

You're really missing out if you haven't got a sound card that can handle the delicate mid-



CD REVIEW

There's a rebellion on the cards as Keith Pullin steps into the all new X-Wing...

range noises, and the clever iMUSE system ensures you never have to endure one tune for too long, as it automatically switches to a deeply dramatic score as soon as the enemy appears. You would be hard put to find better music in any PC game.

Vader go

The penalty for all these bells and whistles is speed of course, and although the minimum spec is a 386 with 4Megabytes of RAM, a 486 is highly recommended, preferably a DX66 or higher if you want this game to shine like a pulsar. Anything else and you'll need to turn off all the galaxies and surface detail which ruins the point of the enhanced CD version.

Presentation remains excellent, with great rebel base screens and a selection of neat sidelines such as the historical mission room, which allows you

A-WING AND A PRAYER



The X-Wing's speed makes it the ideal choice for dogfighting and surprise assaults.



A fast, versatile craft which can be used as a fighter or bomber depending on circumstances.



This speedy little fighter is useful for reconnaissance missions and a very speedy interceptor.



The proton torpedoes and laser cannons make this sluggish craft the perfect bomber.



Staying in close formation with your wingmen is a hard skill to master. Order your squadron to fly off and attack other targets so you don't plough straight into them!

to take part in, er historical missions (stop me if I'm getting too technical). With the three games in one, this increases the number of famous battles, and there are plenty more bonus missions to test your ability with the Force.

But the main course is undoubtedly the campaigns and with CD power you no longer have to swap disks to access any one in any order. If you wish you can go straight to the big confrontation with the Empire, but this is perhaps one of the worst parts of the game. I would have much preferred to have earned the right to see the later levels through skill and accuracy.

One thing that does mar all

the X-Wing games is that all-too often you are faced with tedious point and click identification missions that contain very little

Even if you have the original, this is well worth the money. You won't believe it, but the best just got better.

action and long periods of time simply flying to the next target. Some of them go on far too long. The short snappy assassination gigs will always contain the high-

ALTERNATIVES



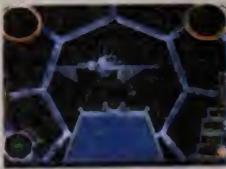
INFERNO

Ocean • £44.99 • 83%
Classy deep space and planetfall shoot-'em-up.



WING COMMANDER 3

EA • £44.99 • 93%
\$4 million epic space opera for fans only.



TIE FIGHTER

Virgin • £44.99 • 93%
A real stunner. See the mission disk review on P46.



As expected, the trench is packed full of laser turrets and ion cannons.

lights of the game and it is for this reason that the programmers have included the in-flight camera.

At any point in a mission you can switch the camera on to record a particularly heroic or exciting bit of flying, then once the dust has settled you can take your little black box into a hi-tech editing suite onboard the Independence and create the perfect close-call action sequence which can be saved to impress friends, neighbours and members of the opposite sex. There's never a dull moment when you're Mark Hamill!

Take a Luke

The big question is, do the extra missions, incredible textured and light sourced graphics (Gouraud shading no less), along with stacks of sampled speech from the film and full digital sound

effects, round off a brilliant game? Or is X-Wing CD just a blatant attempt to make more money out of the Star Wars phenomenon?

To be honest, it was an unfair contest because although B-Wing was a bit dodgy in the gameplay stakes, both X-Wing and Imperial Pursuit were real corkers. How could LucasArts possibly balls this up? Answer, they couldn't, and X-Wing Collector's CD-ROM is one of the finest shoot-'em-up adventures on the PC and will certainly remain in my drive for the foreseeable future.

My advice, if you haven't played any of the X-Wing games (where have you been?), get it. But even if you have the original, this is well worth the extra money. You won't believe it, but the best just got better. 10

1



2

3



1 Fall in your mission, and His Helmetness will be waiting for you with a selection of unpleasant surgical instruments. **2** The infamous Death Star exhaust port, this time seen from a B-Wing. **3** Multiple cockpit views are available. **4** Probably more than you ever wanted to know about rebel ships is on tap in the Tech Room. **5** One of the many, many cut scenes as you prepare for another mission.

4



X-WING COLLECTOR'S

Publisher
LucasArts/Virgin Interactive
Tel: 081 960 2255
£49.99

Minimum System
386/33 DX (486 recommended), 1 megabyte EMS RAM (2 megabytes recommended), 256 colour VGA/MCGA, CD-ROM drive. Supports all major sound cards, joystick is essential

For
Stunning graphics, identical to film
Stacks of speech and soundtrack straight from film
Longer lasting than Duracell
More absorbing than an amoeba

Against
Takes time to master controls
Some missions are a bit long-winded

92%

Ka-50 Hokum



Flying low into the valley, the Hokum circles its prey before heading in for the kill with AGMs targeted and guns blazing. This small village only contains four or five huts; one of the smaller targets in the game, so no problems will be expected.

If helicopters are your thing, then you'll know the Ka-50 Hokum is the only helicopter in the world capable of performing a loop. Aided by an extremely powerful engine giving a top speed of 350kph, and a coaxial rotor system (a second set of blades directly above the first), this baby doesn't even need a tail rotor. Unfortunately, it's Russian, and while they laugh all the way to the bank, the rest of the world have to figure out just how the hell they did it.

Ka-50 Hokum from Virgin (incidentally, a game which has taken an inordinate amount of time to arrive) is a highly detailed flight sim/arcade game which takes place in the South China Sea as you do battle with smugglers and pirates in your capacity as freelance mercenary.

The pirates are equipped with AH-64a Apaches (where did they get those from, I wonder?), tanks, SAMs and anything else

they can lay their grubby hands on. The pirated goods are then sold to local villagers, some of whom use their innocent looking straw houses to conceal enormous weapon stashes.

Believe it or not, all this is actually happening right now in

The incredible thing about this clever little sim is that it will actually endeavour to complete the whole game itself....

that part of the world, so Simis (the company responsible for *AV-8B Harrier Assault*) decided to cash in on the Hokum hype and bring the merchant shipper's plight into the open by releasing a simulation based on the helicopter's exploits.

Pieces of eight

As commander of one of the mercenary protection forces, you have eight helicopters at your disposal and a brief to utterly destroy the pirates' main HQ. Basically you have four different choppers: Ka-50 Hokum, Bell AH-1W Super Cobra, Mil Mi-8 Hip and the Westland (ditch me in the North sea) Army Lynx.

As you step aboard the command frigate in preparation for the first mission, it is advisable to check out the satellite map of the area. This can be zoomed in on, and different helicopters in your flight selected and piloted. The map is where you begin all of your missions and you must click on the 'start mission' icon to fill the briefing room with information. You can also survey the area and plan effective strategies.

Other map commands enable you to check the status of any of the local villages, registered trading ships or friendly heli-

With a parrot on one shoulder and a "yo-ho-ho!", Keith Pullin flies off to the pirate infested South China Sea in the most advanced helicopter in the world.



HD REVIEW



Time to load up with stingers and hit the sky with the Hokum, what a job!

copters. There is even a view option which gives you the chance to see through the eyes of any of the above. This gives you first hand experience of any attack that may be underway.

After a few seconds, a message appears at the bottom of the screen informing you that a mission for one of the four choppers is available. There are three kinds: escort ships, interception of AH-64a Apaches and AH-6G Defenders or ground forces (including enemy villages, tanks, AA guns, SAM sites and speed boats), and reconnaissance. You can now lift off and begin the rout. At least, that's what I thought!

HAL is back

Suddenly, another message appears on the telex informing you that the mission has been taken. Lo and behold, as you flick back to the bridge view a Bell Super Cobra thunders past the window in glorious detail!

YOU PILOTS ARE SUCH... MEN!



HOKUM
The ultimate helicopter, unbeatable in all departments.



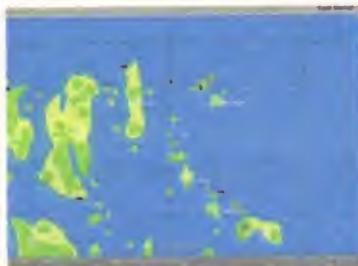
COBRA
Fast and well armoured, this is almost invisible to radar.



HIP
This Russian troop-carrier is an excellent support chopper.



LYNX
A proven success in the Gulf, it's an excellent tank-buster.



The area map shows the location of all your choppers, check it regularly.



This cruising Lynx is only one mile away from intercepting an Apache.

Whilst still somewhat surprised at the computer's eagerness to fly the mission for you, another mission appears and exactly the same happens. So what's going on? Well, the incredible thing about this clever little sim is that it will actually endeavour to complete the whole game itself – I'll explain more...

If left to its own devices, immediate assessment of the pirates' progress will cause an automated launch of helicopters – one every three minutes.

One of the ways this can be used to your advantage is to let the computer choose which 'copter to send where (they invariably make all the right decisions when it comes to armaments) and then switch to manual control when you're near the target, so saving a great deal of boring navigation.

Another bonus of this system is that you can alternate between four different heli-

copters and have control over all of them, which is amazing if you've just wiped out your primary target and don't fancy the tedious return journey. Simply change to the Lynx that's about to incinerate a convoy of tanks, turn off the autopilot, and watch the flak fly!

The advanced pilot who wants to make all the decisions himself will barely use this computer assistance, but any right-thinking person will plump for a mix of auto and manual. You can also select your own targets and then add and even change the waypoints at any time to re-configure the mission to your own aims.

All this would be exemplary in any combat sim, but *Hokum* excels by allowing you to formation-fly four choppers into the target zone and strategically send them all over the islands to complete the mission in half the time. Imagine, you are attacking the main town from the north,

ALTERNATIVES



COMANCHE
NovaLogic • £39.99 • 90%
Awesome blaster that defines 'excitement'.



GUNSHIP 2000
MicroProse • £16.99 • 68%
Lost its graphical flair, but worth a go at the price.



DESERT STRIKE
EA • £34.99 • 85%
Don't discount this when it comes to chopper action.

whilst your wingman neutralises the radar so that they can't detect you, and at the same time your other flight is cutting off their escape and mopping up any stray guns. Brilliant. This adds a whole new dimension to combat flying.

Hokum all ye faithful

One of the fascinating aspects of *Hokum* is that all the helicopters react perfectly and realistically to the controls, and it is entirely possible to slide sideways over a target, strafing the ground and blowing up huts with comical A-Team rockets.

The graphics are extremely detailed for this type of game; mixing the harsh contours of games like *US Navy Fighters* with the more pixelated feel of *Thunderblade*. The result is a realistic, slightly hazy texture mapped environment that resembles some of the official

Evans & Sutherland US military simulators. Now that's magic!

With texture mapping on nearly everything and tree covered landscapes all around, coupled with a never ending selection of viewpoints, it's amazing just how fast the game moves. Even on a low end 486, *Hokum* is entirely playable with a decent amount of detail, and you don't feel as if you're missing out on a lot of the game, as you do in *NASCAR*.

Ka-50 Hokum is an incredibly playable and accurate helicopter simulation that successfully marries high end technical aspects with good old gung-ho war mongering. This is definitely one of the most accessible pick up and play flight simulations on the PC today and I for one recommend it whole-heartedly. Gripping. (1)



Two choppers return from a mission at the same time, but it looks like the Cobra's going to hover around for a bit while the Hip returns below deck to the hangar.

KA-50 HOKUM

Publisher
Virgin Interactive
Tel: (0181) 960 2255
£39.99

Minimum System
386-66MHz (486 Recommended), 4 Mb RAM, 256 colour VGA/MCGA, floppy drive, hard drive. Joystick and mouse recommended, supports all major soundcards

For
Can control up to four helicopters
Splendid graphics with texture mapping
Intelligent computer assistance
Loads to see and do

Against
Not enough missions
A wider variety of enemies would be nice

91%

Woodruff and the Schnibble of Azimuth

Known for his love of large noses, Keith Pullin took one look at the range on offer in Sierra's latest journey into the sublime and waved goodbye for a couple of days...

Have you ever wanted to know the meaning of Schnibble? You've never really thought about it, right? Well, by playing through this insane point & click adventure starring Woodruff the Boozook, you should have a damn good idea by the end of it.

The aim is to reinstate the oppressed Boozooks as the rightful rulers of the Earth, restoring the High Council of Seven Boozooks and ridding the world of the evil human Overlord. Along the way you must discover how Woodruff suddenly aged ten years in a few seconds after his adopted father, Azimuth, was kidnapped by a masked intruder who broke into their house and ruthlessly gunned down Woodruff's beloved teddy. Something appears to be afoot, or is that a nose? Whatever's happening, you can be sure that Woodruff's on the case.

All American hero

You begin by appearing at your front door in a bit of a daze. Woodruff looks like your average American kid to tell the truth – long hair, headband and extremely stupid looking. So

where are you? Who are all these people? And where can you get something to eat?

The first thing that will strike you about *Woodruff and Schnibble* is the lack of commands. Clicking on an object will either result in a brief description of it, or Woodruff will immediately pick it up and put it in his pocket. The only real options

**A mad tax
inspector pops out
of dustbins,
trombones and
other hideouts,
reminding you to
pay off various
hangover,
pollution and body
odour taxes...**

available are when you move the pointer to the top of the screen where you will come across the file menu, inventory and info.

Clicking the right mouse button will also bring up an inventory, showing a box with all your items. To use something, simply highlight it using the left button, then click on the object or person you wish to use it on. This



Each screen has numerous objects and 'people' for you to examine or talk to. Most of the town's inhabitants willingly waffle on about anything and everything.

game does not require you to be a MENSA candidate to play it.

If you move over to one of the onlookers and talk to them, apart from noticing that most of them have exceedingly large noses, you will be impressed by the clear speech uttered by the inhabitants of this curiously warped Earth.

The incredible mix of male and female voices and different accents means that you're never too sure what direction the next conversion is going to take. Chat is important in this game, as it gives you vital clues and information regarding the where-



CD REVIEW

abouts of Azimuth and also the Schnibble. Like *Simon the Sorcerer*, the speech makes this game come alive.

Difficulty wise, *Woodruff and Schnibble* is pretty tough. Even at the beginning, the lack of collectibles makes everything a little ambiguous and you're left wan-



Woodruff was warned about the quality of the food earlier in the game, but that didn't seem to stop him trying out a rather seedy looking burger joint. Walking further down this grubby alleyway leads you to the nut shop and the gentleman's club where only the most well dressed, sophisticated types are allowed entry.



The icons at the top show your commands. As you can see, there is a severe lack of general action icons, which means that the screen is always uncluttered.

dering around the first three or four screens endlessly clicking on shop windows and doors until you know their descriptions like the back of your hand.

Eventually, against Woodruff's generally peaceful ideals, you'll realise that throwing a nut at a worthless dirty beggar is the only way to progress. The irate beggar hurls a boot back at you, which can then be thrown at another boot balancing above your door to knock it down. Collect this and you can then splash through the acid river to pastures new.

A sobering thought

Even with plenty of objects in your pocket, you must still only use the set command structure to complete the game, and many solutions require some awkward phrasing to get right.

Giving an old wino a coffee to sober him up, for example, requires you to use the coffee on the wino, rather than just giving it to him.

In a way this is a good, as it ensures you won't be fumbling around with half a dozen different commands in order to carry out a simple task, but it also gives the impression that the interface and gameplay are fundamentally limited.

When it comes to graphics and ideas, this game is faultless. Woodruff stumbles around his unfamiliar surroundings with all the quirks and mannerisms of a Tex Avery character, often entertaining you by pulling amusing faces or frequently reminding you in his Droopy voice that he'd love to read the poster, if only he could read...

Woodruff looks like your average American kid - long hair, headband and extremely stupid looking...

The mad tax inspector who pops out of dustbins, trombones and other hideouts, reminding you to pay off various hangover, pollution and body odour taxes, shows that the ideas department at Sierra is still in top form and what's more were probably prescribed some mind-altering drugs for this nutty project.

Monty was 'ere

Woodruff and Schnibble could even be regarded as Python-esque. Whilst in a bar, chatting

ALTERNATIVES



SAM & MAX
US Gold • £39.99 • 83%
Very funny and baffling, with brilliant characters.



INDIANA JONES & THE FATE OF ATLANTIS
US Gold • £39.99 • 94%
Everyone's fave explorer!



DAY OF THE TENTACLE
US Gold • £39.99 • 95%
The ultimate in silliness, amazing entertainment.



Lock up your Teddies, there's a fluffy toy killer on the prowl!

away with one of the customers, the scene suddenly cuts to a blank screen with the game title identical to the Monty Python logo. Stood beneath this monolithic title, Woodruff suddenly has a flashback and rants on about how he remembers his teddy being shot. Revenge is sworn and Woodruff suddenly finds himself next to an English literary critic known as J F Sebastian – wait a minute though, wasn't he in *Blade Runner*?

Woodruff and Schnibble is a highly polished point & click adventure that excels because of its quirky humour and well drawn cartoon graphics. The high quality sound samples are some of the best I've heard (and certainly annoyed the office for a whole week!) and it certainly rivals *Sam & Max* for overall playability and long lasting appeal.

You will spend ages uncover-

ing all of the secrets here and this equates to great value for money. The only problem I found was a lack of in-game commands, but once you've got the hang of the simple system it flows freely from your fingertips. *Woodruff and Schnibble* is a wonderful adventure that will give your brain and your funny bone a workout. 10

WOODRUFF AND THE SCHNIBBLE OF AZIMUTH

Publisher
Sierra
Tel: (01734) 303322
£39.99

Minimum System
486-25 or higher, 4 Mb RAM, 256 colour VGA, CD-ROM drive. Must have Soundblaster or compatible soundcard or game will not run properly. Requires mouse to run

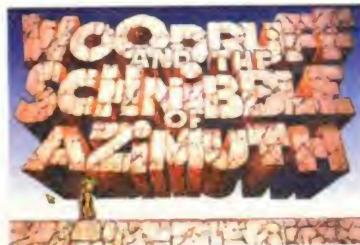
For
Stunning acoustics and visuals
Massive playing area
Amusing to play
Taxing puzzles

Against
Basic user interface

87%



Leaving our bemused friend for a while will encourage him to perform a host of silly animations; he listens to his personal stereo, blows his nose and much more.



HD REVIEW

While looking for the hanging gardens of Babylon, Keith Pullin bumps into a couple of Philistines.

The world can be a violent place, especially if you happen to live around the south east Mediterranean, 1,200 years before the birth of Christ. In these savage times, a walk in the countryside rarely passes by without a Babylonian, Philistine, Egyptian or a member of one of 20 other ancient cultures trying to stick a large pole through your skull!

As leader of one of these ancient cultures you must take your people from their happy yet pitiful existence and turn them into merciless warriors, using only a PC and an overhead strategy simulation.

Using a combination of clever economic wheeling and dealing and an unquenchable thirst for blood, you must then trade and carve your way across to the shores of the Mediterranean and beyond in a quest to build a glorious empire... at least, in theory.

The other Kings and Emperors have different ideas though, so the best strategy is to pace yourself, slowly building up your supplies and armies until you have enough clout behind you to pillage the entire continent! Alternatively, you could be diplomatic and offer the olive branch to a visiting dignitary in order to clinch a solid trade deal, thereby strengthening your economy for the future.

There are eight items that can be traded in all, including wood, metals, horses and, of course,



food. Supplies must also be bought for the army, so it is not a good idea to spend all your money on one thing or to build up your military might to such an extent that you can't afford to feed them.

A day rarely passes by without a Babylonian, Philistine, Egyptian or one of 20 other ancient cultures trying to stick a large pole through your skull...

When the battle eventually comes, a major flaw in the game is uncovered. Thousands of blood-thirsty archers, lancers and other rampant soldiers, represented as small squares, slide



The map on the right, details the mountains and forests of France. Tucked away within its leafy glades are the well protected towns and cities.

across the plains, mountain ranges, swamps and roads to attack the enemy. Your choice of moves include outflanking, ambush or the good old full frontal assault. The trouble is, that's the only decision you have to make! It's all over a bit quick and you get the feeling that you were never really in control.

There definitely seems to be more strategy involved in the economic and diplomacy side of things rather than the en masse fight sequences. *Dune 2*, a

game along similar lines, had a perfect mix of both. This is more like *Elite* in the Middle Ages, with the success due to trading rather than fighting.

The manual gives the impression that *Legions* is a lot more complex than it actually is. In reality there are not that many commands to get to grips with, just a healthy quota of pretty dull and samey missions ending in 723AD after the fall of the Roman Empire. There are better games of this type and I urge you to try them before this.



1 Diplomacy will get you a long way in *Legions*. 2 The medieval version of Wall Street raises a few eyebrows. 3 Holding the delta of the river Nile is a strategic milestone for the Egyptians.

LEGIONS

Publisher
Mindscape
Tel: (01444) 246333
£34.99

Minimum System
386-33 DX 4Mb Ram, 256 colour VGA/MCGA. Supports all sound cards, requires mouse and Windows 3.1 upwards

For
Multi-player link-up might add to the (minimal) fun
20 progressively difficult scenarios
Complex and involving

Against
Bland, unexciting graphics
Draughts sequences
Doesn't create tension
Miserable music and sound effects

61%

ALTERNATIVES



CAMPAIN 2
Empire • £39.99 • 84%
One of the most detailed strategy games ever.



PANZER GENERAL CD
Mindscape/SSI • £44.99 • 83%
Great tank-related strategy war game.



DUNE 2
Hit Squad • £14.99 • 85%
What strategy mixed with action is all about!



An instant before the explosion, Bradly realised that the other boys at school must have substituted his football for a small nuclear device. The little devils.

Metal Marines is a futuristic isometric strategy game that first appeared on the Super NES over a year ago. The aim is simple. You nuke the hell out of any enemy commander brave enough to insult you over the airwaves.

At your disposal are a plethora of offensive and defensive devices such as missile batteries, Patriot-style rockets, factories, energy stations, radars, military bunkers, ICBMs and, of course, the Metal Marines of the title, who are effectively your ground-based troop divisions.

It all sounds like yet another war game, but *Metal Marines* is made interesting by the arcade style of gameplay and a devilish two player serial link game. For a start you can attack whenever you want, rather than having to wait turns. The only constraint on your warmongering are cash and energy levels, but these can be topped up if you build enough installations.

Missiles, for example, only recharge at a certain rate; that is, unless you build some factories and energy plants to supplement them. You can also beef up individual units so that for example, an AA gun fires two SAMs instead of one. This is very use-

ful with missiles, because whereas one rocket can be shot down, two usually get through to the precious targets on your opponent's island.

The graphics are bright and colourful, as well as being intricately detailed in the same style as *Sim City 2000*. As this is a Windows game, the action is displayed in four main boxes: communications, your island, the enemy's, and a list of available units to deploy.

With a decent machine I played it through the night, but most people will not buy a P90 to play such a basic game...

The communications window is a neat addition, as it means your enemies can taunt you constantly; sometimes even losing their rag and kicking in the TV! This screen also delivers important news about your own forces and you can access all the game options here by pointing and clicking on the right icon

Metal Marines is a fun game.

ALTERNATIVES



BATTLE ISLAND 2

Blue Byte • £29.99 • 88%
A top notch war strategy game.

DUNE 2

Hit Squad • £14.99 • 85%
Futuristic war game with good graphics and plot.

UTOPIA

GBH • £12.99 • 78%
More empire building and needless slaughter.



We're all doomed! The enemy forces crush your defences and merrily stamp on your sister's head, before hogging all the deckchairs and barging in the queues.

Endlessly pummelling a weaker opponent with clusters of nuclear missiles is enough to bring out that *Doom* feeling all over again, but the action is marred considerably if, for some reason, you are playing on anything less than a Pentium. Given the simplicity of the game, I was surprised to find it regularly slowing down to a crawl, or even crashing because I had tried to do too much at the same time. In a game of this type, it is simply unacceptable to have to hold back for fear of overloading the screen with explosions.

On a 486DX2-50, *Metal Marines* was practically

unplayable, especially when the grounds was littered with debris or buildings. It is also frustrating because when the enemy launches an attack, you must wait for it to hit before you can click on the info bars. If you click too soon, the map whizzes off the screen and it is useless.

Metal Marines is a good laugh, and a great game in theory, it's just the terrible slowdown that ruins it for me. With a decent machine I played it all through the night, but most people will not buy a P90 to play such a laughably basic game as this. (D)



METAL MARINES

Publisher
Mindscape
Tel: (01442) 246333
£TBA

Minimum System
486 4Mb of RAM, 10Mb of hard drive space required. SVGA 640x480, 8Mb RAM and Hayes compatible modem for modem play. SoundBlaster and compatibles. Windows 3.1 (Enhanced mode)

For
An excellent strategy game
Detailed graphics and massive explosions
Comms screen adds atmosphere
Serial game is great fun for hours

Against
Slow, even on high-end PCs
Jerky and disjointed action
Enemies have too many advantages

81%



Metal Marines

for Windows

War, what is it good for? Huuurghh! Say it again. Damian Butt endeavours to find the answer with *Metal Marines* from Mindscape.

I taly tends to be better known for its over-acting footballers and pasta dishes rather than software developers, but new boys Graffiti are hoping to change all that with their debut game, *Iron Assault*. From what we saw of the unfinished version a couple of issues ago, all seemed set for the game to stomp onto the scene bringing with it a hitherto unseen mix of *Doom*-style blasting, atmospheric stop-motion film sequences, and an entire army of digitised model robots.

If the method is original, the plot certainly isn't. At the beginning of the 21st century, organised crime syndicates ran riot and threatened to control all commerce, emergency services and anything else that would ensure they had free reign over the inhabitants of the planet Earth. By 2070 the threat had become a reality and even the police force were puppets with mafia operated conglomerates wildly jerking the strings.

Into this world comes you, a combat trained rebel who must take out the syndicates with your own heavily armed robot attack vehicle. It's pay-back time!

Cardboard city

The introduction sets the scene with a *T2*-style, post-holocaust,



Deep within the bowels of an enemy camp, these frogs are not your average green squashy types. In fact, this monster robot is armed with machine gun and missiles!

shattered landscape. The flying model spaceships are like something from a Gerry Anderson series, but credit is due for attempting what must have been an incredibly time consuming mini movie in stop animation. This sequence is very similar to the Manga video, *Gunhead*.

The presentation is also commendable and there are plenty

of screens that allow you to take your pick from various robots ranging from the fast and light types to the heavily armoured vehicles that take an eternity to move from A to B but will obliterate everything in their way.

As usual in this type of game there is plenty of weaponry to equip your metal beast, including a host of dumb projectiles, plus



GO AHEAD, MECH MY DAY



This meaty mechanoid is a medium size craft. It's sloooow, but carries some nasty firepower.



A light robot that is heavily armoured with a good scanning range, ideal for early missions.



One of the vehicles you start with. It's quick and well capable of destroying an enemy base.

Iron Assault

Bringing hard-core robot battles to the intensifying swarm of *Doom* clones is Virgin's *Iron Assault*. Keith Pullin discovers this heavy metal offering is a bit of a clanger.



CD REVIEW

ALTERNATIVES

**DOOM II**

id • £44.99 • 95%

The perfect all-round first person blaster.

**EARTHSIEGE**

Sierra • £39.99 • 72%

A good robot blaster, but very sluggish.

**RETRIBUTION**

Gremlin • £39.99 • 80%

The best battlemech game so far.

the added luxury of the ROTAX missiles that home in on selected targets. You also get a wicked front firing machine gun to waste any foolhardy civilians.

The basic gameplay is a simple case of guiding your assault robot around a maze (with either

basic texture mapping. You begin in the city, but it is apparent right from the start that this is not cutting edge technology and the entire urban sprawl moves at a criminally slow frame rate. It is the same for the desert, mountain and arctic levels. With games like *Doom II*, this sort of sluggish pace is unacceptable.

As for the digitised enemy robots, well, I expected a little more than the blocky, badly animated examples that staggered up to me. I haven't seen sprites like this since the original *Wing Commander*. What a shame that Graffiti put in so much effort to produce these awesome looking machines only to find their precious models have absolutely no on-screen impact.

Tactical face saver

Knowing your HUD read-outs is also important if you want to succeed. Your radar, which has four zoom settings, will show you the location of the conglomerates' patrols, and other boxes showing damage reports for you and your party

city or suburban decorated walls) until you come across some other fool in a tin can who you must instantly waste with any weapon you can. And that's it, at least until the later missions where you can control multiple robots; using them strategically to assault an enemy base or capture a scientist.

As an ex-Battletech fan, I dived into *Iron Assault* expecting to find myself immersed in dark foreboding streets teeming with 40 foot tall metal maniacs. I was not expecting a first perspective nightmare of tiny 3-D landscapes liberally sprinkled with the most



Pounding down the corridor, your progress is halted when a small ANT unit opens up with a missile salvo, but there's no way it will survive one of your shots.

must be watched carefully in case some of the enemy try sneaky rear attacks.

Generally the missions aren't that different, though. Most of them require you to simply scour an enemy sector, clearing the way for you and your buddies to infiltrate the base and blow everything sky high. Once inside the enemy buildings everything suddenly becomes darker and it's time to rely on your infra-red scanner rather than straight forward visual confirmation. Once primary and secondary objectives have been accomplished

you can call in the drop ship and it's back to the rebel base for a debriefing.

I played *Iron Assault* for absolutely ages and the repetitive format didn't change once. This is a basic robot battle game which has none of the visual impact of *System Shock* and virtually none of the complexities of other progressive campaign games such as *X-Wing*.

As a first release, *Iron Assault* is not bad, but future games from Graffiti will have to be something really special to impress me.



The narrow winding corridors don't convey the same feeling of freedom as games like *Doom*.

IRON ASSAULT

Publisher

Virgin Interactive Entertainment
(0181) 960 2255
£34.99

Minimum System

386-33 (486-66 recommended), MPC1 dual speed CD-ROM drive, 4Mb Ram, VGA, Adlib or Soundblaster sound card. Mouse, keyboard or joystick compatible

For

Will take a while to complete
Can save up to six separate games

Against

Jerky movement on robots
Uninteresting backgrounds
Strategy element is sadly lacking

68%

The box was large and shiny and covered in the usual advertising blurb. It read "You're the commander in chief on a quest to conquer and colonise alien worlds. Timid commanders need not apply." The pictures on the back showed ray-traced space ships and tons of interesting activities like bombing innocent civilians and reducing whole star systems to atoms. It looked like a good game and so I took it home for review.

Alas this is how many people will greet *Space Federation* by Interplay, but I must warn you, this game does not live up to the promise of the packaging. For a start let's look at the graphics and those ray-traced spaceships which are absolutely pathetic, even for a strategy game, lacking definition and imagination. Presumably they mean the ships have been traced using a cRAYon!

Combat in Space Federation is at best inept, and at worst completely unplayable...

The intro sequence, explaining the fall of mankind and the beginning of the galactic war you have to wage, is blocky and lacks even the basic detail needed to convey the scene with any credibility. Couple this with one of the most simplistic main ship sprites since *Defender* and you have the recipe for a poor game, visually at least.

But of course strategy war games never have the graphics



Oh wow, it's the stunningly exciting species screen. Ooh, I wet 'em!

of *Doom* or *Rise of the Robots*, they excel in gameplay and depth, don't they? Well, no, not if *Space Federation* is your yardstick.

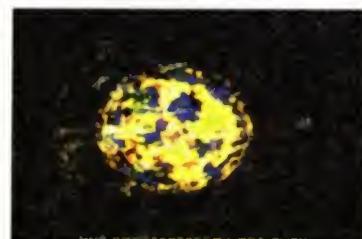
The plot is simple. You must choose one of the missions from the computer (nice robot hand by the way, pity the rest of the computer looks like it was constructed out of Lego!) and then embark in your mothership to the relevant star system.

From the home planet it is your job to slowly colonise the surrounding worlds using troop ships and starfighters (constructed using limited minerals from your captured planets) in order to advance on the enemy's space. Each planet conquered must be defended, and mines and bases must be built in order for your battlefleet to progress. This is the easy part.

The hard part of *Space Federation* is actually fighting the enemy. Oh sure it's easy to fly out and drop some toolled up stormtroopers on a bunch of simple farmers on a dustball near Tau Ceti, but get so much as a sniff of the enemy's territory and you are immediately beset by a hundred laser pumping fighters. You don't stand a chance.

Combat in *Space Federation* is at best inept, and at worst completely unplayable. The only way I could even hope to see the enemy was to spend hours building up a huge fleet of ships that hover in space or are stocked in a large galactic NCP, and then one-by-one set them to attack. You can't order them all into battle simultaneously unless they are all in the storage bay and even then they are totally annihilated in seconds; leaving your homebases completely undefended.

What this game needed was a decent combat system that allowed you to fight with your entire fleet simultaneously, perhaps organised like AD&D combat rounds where you each get a turn to fight back.



Interplanetary negotiations do not go as planned.

HD REVIEW

Space Federation

In space, no-one can hear Damian Butt moaning about the latest strategy game from Interplay.



Space battles are all too often a cold and ruthless affair. You point your Defender at the enemy and fire a stream of blue melons at them. Combat is similar to SC2.

ALTERNATIVES



UTOPIA
GBH • £19.99 • 78%
Celestial empire-building a go-go.



SUPREMACY
Hit Squad • £12.99 • 80%
Create an empire and then sort out the natives.



STAR CONTROL 2
Accolade • £19.99 • 90%
Space blasting action with a good two player.

The colonisation is all very well, but it soon gets incredibly boring and you are constantly running out of minerals anyway. The sad fact is that all you seem to do when playing this game is sit and wait for the factories, bases and ships to be built so that you can do something vaguely interesting. The game is also played in real time, but this only serves to prolong the agony.

Space Federation is a poorly thought-out strategy game that quickly aggravates the nerve endings and doesn't satisfy in any way. Give this a miss and play a worthwhile strategy game like *Sim City 2000* or *Ultimate Domain*.

SPACE FEDERATION

Publisher
Interplay
Tel: 01235 821666
£39.99

Minimum System
386/33 DX, 4Mb Ram, 256 colour VGA

For
It's very big (it is space after all)

Against
Not enough variety in the missions
Some really BAD graphics and fuzzy sprites
If conquering was this boring, Ghengis Khan would have stayed at home with the wife and mongols

55%

BreakThru!



HD REVIEW

Alexey Pajitov changed world history in 1985, when he released *Tetris*. Nobody in their wildest fantasies believed that arranging falling bricks into patterns could hold the attention of the whole world, but it did. Can the Russian genius do it again?

BreakThru! is a Windows puzzle game similar to *Tetris* in so far as blocks fall from the top of the screen, but that's where the similarities end. The idea is to delete all the squares consisting of various gaudy colours, so that the picture behind is visible. You do this by clicking on bunches of

It's one of those games you can just keep playing and playing...

two or more. This will then make them disappear, allowing other blocks to fall into new positions and hopefully pushing colours together again. Pretty simple, huh? No.

New cubes are constantly descending from above, along with objects such as rocks and soda cans which impede the blocks and cause you no end of hassle trying to shift them. The only way to destroy them is with bombs or rockets – luckily, both regularly fall from the ceiling.



Another two player dual game springs frantically into life.



From the creator of *Tetris* comes *BreakThru!* – another of those addictive little games that grabs you by the blocks and won't let go!

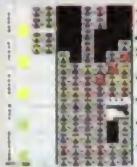
Keith Pullin puzzles it out.



along with magic blocks used to take out every block of a certain colour.

In all there are four types of game: single, cooperative, competitive and dual. The single game has one player trying to achieve the highest score possible. Cooperative has two players on the same screen helping each other. Competitive, however, has two players on the same screen, each frantically trying to accumulate the highest score. The dual mode is also enjoyable, giving you the option of having a

ALTERNATIVES



1993TRIS

Shareware • free • 80% *Tetris* and guns, what could be better?!



3DPIT

Shareware • free • 83% *Tetris* but looking down from above - superb fun.



EGAINT

Shareware • free • 79% A basic *Tetris* clone, but still very playable.

two player game which is basically a race to clear the screen as fast as possible. Only one machine is needed as one player uses the mouse and the other uses keys.

So that's the aim of *BreakThru!*, but does it possess that magical addictive quality that is so important in a puzzle game? Luckily, it does, and it's one of those games you can just keep playing and playing, unless you're prised

away to do something important – like writing the review!

BreakThru! is perfectly acceptable as a puzzle game and is ideal for sticking in the background and messing around with at your leisure. It's not in the same class as *Tetris* (the original and best), but it's definitely one of those office games where everybody's vying for the supreme high score. Good clean and addictive fun. **10**

A LOAD OF BLOCKS



BOMB
Will destroy squares directly surrounding it.



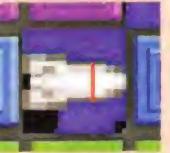
CAN
The only way to delete these is by blowing them up.



MAGIC
Click it, then choose a colour to wipe out.



ROCK
Can only be shunted with rockets.



ROCKET
Fired in four directions, these destroy lines.



SPIDER
Kill these to receive 500 bonus points.



A bomb will not explode unless one of its sides is free from obstructions. The best way to approach the problem is from the top and then work your way downward.

BREAKTHRU!

Publisher
Microprose
Tel: 0454 326532
£24.99

Minimum System
386-16MHz, 4Mb RAM, 256 colour VGA (SVGA supported), 6MB Hard Disk, floppy drive. Windows compatible sound card and Windows 3.1 Mouse recommended

For
Addictive
Good two player action
Easy to get into

Against
Very repetitive

80%



Attempting to confirm the *Alone in the Dark* trilogy as THE adventure series on the PC is Infogrames' final ghostly instalment. The first, with its ground-breaking, 3-D polygon graphics and immaculate, thought-provoking gameplay, established the French based company as a force to be reckoned with. While the second, offering an even more visual experience, lacked the intricate puzzles and tricks that gave the first its all-round quality. Thankfully, *Alone in the Dark 3* is a return to the puzzle-based adventure, retaining and improving upon the graphical excellence of the second project.

Once again you play supernatural detective extraordinaire - Edward Carnby. The story

begins in 1925, when a young antiques dealer, Emily Hartwood, decides to find fame and fortune in Hollywood. Landing a script writing job with a minor studio, she finally winds up in Slaughter Gulch, a tiny desert town tucked away deep in the Mojave desert, where the western "The Last Ranger" is being filmed. However, a few days later, a stricken, riderless horse is found wandering miles away from the shooting location. Upon its saddle, two words have been scrawled - "Call Carnby!".

Blown away

Marching defiantly into the whispering, wilderness surrounding Slaughter Gulch, it's time to figure out the controls. The entire game is played using the key-

Alone in the Dark 3

CD REVIEW

A lonely figure strolls into the office during the dead of night. Carefully he turns on his desk spotlight and boots up a CD. Looks like Keith Pullin is reviewing *Alone in the Dark 3*...

board, but with only the cursor keys for movement and the space bar to perform the actions, and 'return' to view your inventory, you're not going to find yourself wrestling with the keyboard as in most flight simulations.

After finding your bearings, it's not too long before you're faced with a welcoming committee. As you cross a rickety wooden bridge into the town, a wavering apparition appears in the street ahead. It immediately throws a stick of dynamite at your feet and sinks effortlessly into the stony ground without a trace.

With no time to react, the explosion rips the bridge apart, throwing you into the main street. The camera view shifts and suddenly everything is quiet, the only movement a saloon door swinging slowly shut.

Remembering that the first thing a traveller does upon entering a frontier town is check out the saloon, I pushed through the creaking doors and stepped into an empty and neglected bar. On one table an old movie camera lay covered in cobwebs, upon another rested a key. The rest is up to you...



Death is not quite what it seems with the Navajo Indians close by.

WANTED: DEAD OR... DEAD



VANTED dead or alive!
JIM BURKE, alias "LOVE MOYER"
REWARD: \$400
This guy's so greedy,
the only thing that can
stop him is a golden bullet!

Throughout your quest you'll discover a couple of outlaws. This guy is easy to kill.



VANTED dead! LI TUNG, alias "COBRA"
REWARD: \$300
Careful! That Sam Yip man already escaped
twice by putting a 30.06 bullet in
the lock of his cell door, and hitting
it with the side of his hand!

This slippery fiend will leap out
when you least expect it, but he
doesn't appear until later.



VANTED dead or alive!
Duke & John ELWOOD
REWARD: \$3000
\$3000, that's a handsome sum!
But no bullet has ever stopped
the Elwood brothers!

The most vicious cowboys in
town. You'll need something spe-
cial to kill these brothers.



There's no time for diplomacy as you round a corner on the roof of the saloon to find this nasty piece of work trying to ram a shotgun down your throat!

Spaced out

Collecting, discarding and using objects couldn't be simpler. Hitting the return key brings up a list of items and also gives you the chance to choose whether you want to 'use', 'search/open', 'fight', 'drop' or very occasionally 'jump'.

Most items lying around can be taken simply by walking into them. However, large fittings such as cupboards and drawers can also be searched to locate anything hidden out of sight.

Fighting is slightly more complicated, as there are two ways in which this can be done. In order to get Carnby performing what looks like a demented version of Thai boxing, you must select 'fight' from the inventory screen and then hold the space bar while pressing either left or right for the appropriate punch. Even better, press down for a high kick, and for my favourite - that classic move - tap up key for the good old fashioned headbutt!

Other than that, the wide variety of guns available will make your mouth water. At first you must protect yourself with a .38, but you'll soon discover the joys of spraying a room of zombified cowboys full of lead from your Gatling gun.

What appears to be just a missing person case turns into an epic assignment that would have made the Ghostbusters gibber with fright...

Along with this awesome piece of equipment you'll find a Winchester rifle, a shotgun, and even some dynamite, although using explosives in an enclosed area tends to have a rather



detrimental effect on your hit points.

You start with 100 HP on the easy setting, 75 on the intermediate level and 50 on the expert setting. Every time you are hit by an enemy's bullet, fist, or whatever else the inhabitants of this demonic town throw at you, your HP value will decrease. If it reaches zero then it's curtains and you'll have to resume a saved game.

There are certain traps lying around that will kill you immediately though, like the enormous serpent that strikes lightning fast out of a false wine barrel, and a shotgun that blows you away if you push the wrong antler of the moose head in the saloon! So it's worth saving as often as you can, or you'll be screaming blue murder when one false step wipes out hours of intensive exploration.

A perfect mix

As mentioned before, *AITD3* is a return to the more taxing puzzles that were found in the first game, but with 270 locations and over 60 characters for you to kill, befriend, or just avoid for the sake of your own health, the whole experience turns out to be at least four times as large.

ALTERNATIVES



CYBERIA

Interplay • £49.99 • 71%
Slightly disappointing but still well thought out.



ECSTATICA

Psygnosis • £44.99 • 87%
Highly visual and very enjoyable, but too easy.



LITTLE BIG ADVENTURE

EA • £44.99 • 95%
Absorbing but simple isometric adventure.



One of the film sequences shows a spirit possessing the body of an actor.



This machine needs a good whipping to get it back in working order.

Flashbacks and interludes dominate the proceedings, with small snippets of film giving Carnby clues as to the cause of Emily's disappearance.

The plot is well thought out and what appears to be just another missing person case turns into an epic assignment, involving Indian burial grounds, deadly outlaws and paranormal activity that would have made the Ghostbusters gibber with fright.

An intriguing mix of baffling problems and tense fighting, *AITD3* is an unforgettable experience on both a 386/33 DX (min spec) or a Pentium 90. The lack of texture mapping on anything but inanimate items such as guns, means slow-down never really affects it. Basically you could not ask for more.

AITD3 is the best of the trilogy and one of the great adventures on PC CD-ROM. Superb entertainment, go and buy it this very minute! (1)

ALONE IN THE DARK 3

Publisher
Infogrames
Tel: 0171 738 8199
£49.99

Minimum System
386/33 DX, 4Mb Ram, 256 VGA, CD-
ROM Drive, MSCDEX 2.21 or higher, 35
Mb free HD space. All major sound
cards supported and no mouse or joy-
stick required

For
Very fast 3-D polygons
Absolutely massive play area
Highly professional plot
A lot of gaming time

Against
Puzzles might be too tricky for some

91%

Cyberia



CD REVIEW

Andy McDermott wraps up warm for a trip to the tundra.

Welcome to the future, where, deep beneath the Siberian tundra, the ultimate weapon – the Cyberia project – is being constructed. You've been hired to steal it, and, not surprisingly, its owners are doing everything in their power to stop you.

You play Zak, a lycra-clad cyberpunk who sounds like Butt-Head (he actually says "That's pretty cool" at one point!) and never removes his sunglasses, even indoors. Zak does have an excuse for this sad eyewear protocol, in that the sunglasses serve double duty as a hi-tech scanning and communications system. I bet he still walks into the chairs in nightclubs, though.

Cyberjunk

Cyberia mixes and matches game styles in the same way that a bachelor will slap together anything he can find in the fridge in the hope of making a complete meal. The ingredients here are *Alone in the Dark*-style corridor-wandering sections, brief puzzle interludes and CD-



Anti-aircraft action... or, more accurately, lack thereof.

spooled flight 'n' fight action.

Original, no? No.

Though superbly rendered, the individual game sections are worryingly thin. A decade ago,

You play Zak, a lycra-clad cyberpunk who sounds like Butt-Head...

the adventure sections (in the oil rig at the start and the Cyberia complex later in the game) would have been done as a text adventure ('You are in a corridor. Exits are east and west.'). However, the march of technology means that we can't just type 'E' to go to the next location –



The pre-rendered aerial combat sequences look stunning, but you have no control over your flightpath – just the targeting cursor.

we now have to watch Zak stroll s-l-o-w-l-y down the corridor in all his VGA rendered glory.

I'm a control freak

Similarly, the aerial combat is no more advanced than *Thunder Storm FX* on the Mega-CD or the ancient *Firefox* coin-op. Pre-rendered scenes are reeled off the CD, and enemy aircraft and ground targets are superimposed over them.

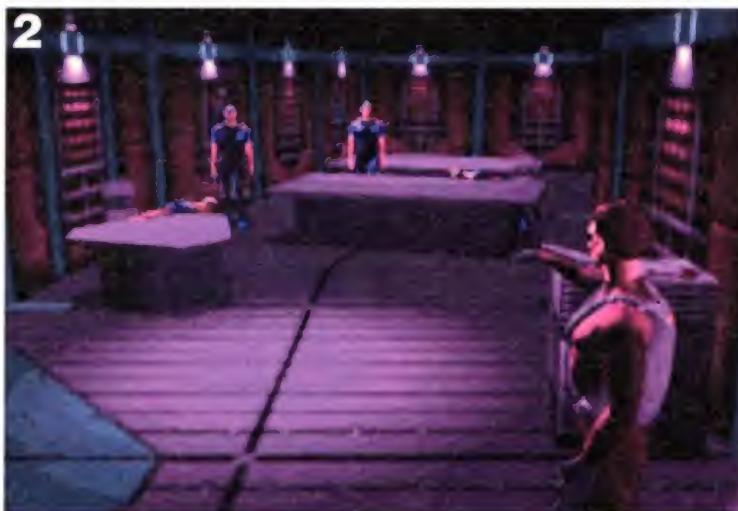
The only control you have is

over the targeting cross-hairs and you just blast the enemy as they appear. The scenery is marvellous, but when you consider that *Flight Unlimited* offers a similar level of detail and complete freedom of movement, *Cyberia* starts to look a bit limited.

Cyberia suffers from the same faults as *Cyberwar* – all the effort's gone into dazzling us with rendered graphics, but the gameplay is decidedly simplistic. For example, an early shoot-'em-up section, where you control an anti-aircraft gun, resembles nothing more than *Zzoom!* on the Spectrum – and isn't nearly as playable. The same applies to the other sub-games. Though it looks beautiful, *Cyberia* ultimately left me as cold as the arctic wilderness in which it is set. □



1 The first puzzle you face – defusing a bomb attached to your plane. 2 In this shootout, you have to waste the two standing goons before ducking for cover behind the crate. 3 This "synthetic actor" looks a lot like a popular sex aid. Or so I'm told. 4 Your TF-22 buzzes a Russian village.



ALTERNATIVES



REBEL ASSAULT
US Gold • £49.99 • 91%
More pre-rendered stuff with a *Star Wars* feel.



ALONE IN THE DARK 3
Infogrames • £49.99 • 91%
Spooky adventuring with more freedom of movement.



CYBERWAR
SCI • £49.99 • 65%
Lawnmower action with similar faults to *Cyberia*.

CYBERIA

Publisher
Interplay
(01235) 821666
£49.99

Minimum System
386/33 (486DX recommended), 4 MB RAM, VGA, CD-ROM drive, Soundblaster compatible sound card. Joystick recommended.

For
Excellent graphics and sound
Unobtrusive CD access
Clever save system

Against
Very linear gameplay
Dragon's Lair-type sequences are frustrating
Subgames all rather limited

71%

PC POWER

Readers' Survey

We know you hate filling in these surveys, but we value the information, we really do. It's also a chance to see what sort of electrical gear you've got so we can pass on your address to our local team of burglars (ho-ho – only joking).

To show our appreciation for helping us improve PC POWER beyond comprehension, we are offering a lucky reader the chance to win his/her height in games!

All you have to do to be in with a chance of winning the loot is to fill out the following survey with all your details, especially the bits about your PC and what sort of things you'd like to see in PC POWER (attach a blank piece of A4 if you need more space) and send it tout de suite to *PC POWER Survey, Durham House, 124 Old Christchurch Road, Bournemouth, Dorset BH1 1NF*. The winner will be announced in Issue #17. Thank you.

1. Your name

2. Your address

.....

3. Are you Male or Female ?

4. How old are you?

5. What is your occupation?

6. If you are a student, what are you studying?

.....

7. How much does your household earn a year?

5-10K 10-15K 15-20K 20-30K 30K+

8. How do you rate the sections of the magazine?

	Good	Average	Poor	
Cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cover Disks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Power A-Z	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shareware & Budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



NB: Programs shown in this picture are not necessarily the ones which will be donated as prizes. If you think we're giving away 3D Studio or our copy of *TIE Fighter*, you've got another think coming...

9. Is there any other section that you'd particularly like to see?

10. How do you think we could improve the magazine generally?

11. What do you dislike the most about the magazine?

12. What games are you most looking forward to being released?

13. Are there any features you'd particularly like to see in the mag?
14. What kind of games do you most like?
15. Would you prefer to pay £2.99 for a magazine without CD or £4.99 for a magazine with CD ?
16. Do you own a CD-ROM drive?
17. Do you use our free CD demo disk?
18. Would you like a VideoCD section?
19. How important are game tips and solutions in a PC magazine?
20. Do you use your PC to play music CDs?
21. What is the peripheral you most want to own?
22. What is your favourite game?
23. Which make and type of PC do you own?
Make
- 386
486-33
486-66
P60
P90
Other (please state)
24. Where do you buy your hardware?
25. Where do you buy your software?
26. Do you intend to buy any of the following in the next 12 months?
TV
Cable
Video
Satellite
Car
Hi-Fi
27. What daily newspapers do you read?
28. What Sunday newspapers do you read?
29. How many times in the last two years have you been abroad?
30. Which company/airline did you travel with?
31. Of the following, what do you own?
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Personal Pension
Mortgage
Loan
Health Insurance
House Insurance
Life Insurance
32. Do you smoke? If so, which brand?
33. What magazines do you read, other than PC POWER?
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PC Home
PC Gamer
PC Games
PC Review
PC Magazine
Others (please state)
34. Are you a subscriber to PC POWER? If not, why not?
35. If you don't own a PC, are you going to purchase one soon? If not, why not? (And why are you reading PC POWER?)
36. Are you interested in upgrading your system soon? If so, to what specifications?
37. Where do you buy your:
Videos?
- CDs?
- Tapes?
- Clothes?
- Footwear?
38. Which cinema do you go to?

PC POWER

READERS' SURVEY 1995

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Combat Classics 3

Veteran warmongers amongst you will no doubt recognise some of the games in this package. Not surprising really, considering they were all notable achievements in their time. *Gunship 2000*, in 1991, consolidated Microprose's position as the definitive producer of highly playable and accurate simulations.

Campaign, a year later, brought a fresh look to overhead strategy games with its 3-D battle scenes. *Historyline 1914-1918*, in 1992, was never ground-breaking, however it did bring the art of strategy to a wider audience with its user friendly icon interface and clear graphics. But three years is a long time and all have suffered the ravages of time to a certain degree. The big question is are all three worth having?

Not apache on the others

In *Gunship 2000* you start out as the classic American rookie pilot; no experience, no decora-

HD REVIEW

tions and no idea. Operating in two theatres of duty: the Persian Gulf and Central Europe, you must fly numerous sorties during night and day to increase

When it comes to all-out flight simulations, it becomes apparent how quickly time can turn a wholesome game into little more than an object of mirth...

your rank and work your way towards the honourable title of Major.

Each mission lets you choose between the AH-64A/B Apache or the newer and more responsive AH-66A Comanche, plus

Cold, wet and huddled in a bunker on the front-line, Keith Pullin sticks his bayonet into the latest strategy war game compilation.



Skimming low over the basic landscape, a quick glance at your comprehensive HUD informs you of a SAM site a few miles ahead.

a few other weaker choppers that are pretty much obsolete and so really not worth using.

You can equip each machine from an impressive selection of weaponry, and the onboard gadgets and dials give you an adequate overview of your situation. Like every simulation since the dawn of time there are oodles of viewing angles available to you. The dramatic missile view gives you first hand experience of what it's like to penetrate the armour of a moving supply train or tank, plus many others that really make you wonder whether the programmers had a competition going for the most pointless cockpit view.

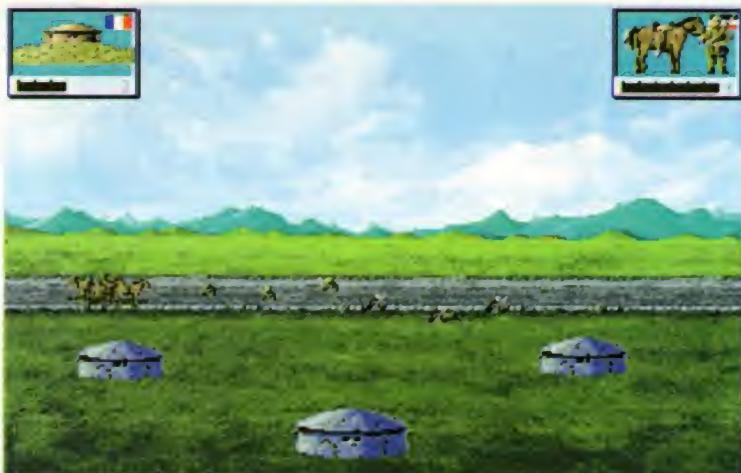
Gunship 2000 simply hasn't stood the test of time. The bland, textureless graphics are no match for the might of *Comanche* and the frame rate will leave you wondering how you ever put up with the likes of a 386SX-25. When it comes to all-out flight simulations like this, it becomes apparent how quickly time can turn a wholesome game into little more than an object of mirth. Sound is awful too.

Campaign in the butt

Whist visiting Granny Pullin over the Christmas period, I was presented with a collection of old World War II encyclopaedias.



1 The dramatic introduction screen for *Gunship 2000*. 2 The simple 3D objects in the *Campaign* battles are nothing compared to the rendered images seen recently and add little to the overall atmosphere 3 High speed strafing is an effective way of removing overly aggressive ground targets. 4 This division of twenty tanks should give the hun something to think about. 5 A German Panther rumbles onwards.



Whenever the two sides engage in combat, the view will change to show you how the fight is progressing, keep an eye on the top left and right of the screen.

After reading through them for a few moments I rapidly discovered that they were the most boring items I had ever encountered. But I was wrong. After returning to what I assumed was the safety of Paragon, I was introduced to the mediocrity of *Campaign*.

Now I'm not known for my World War II expertise and taking on the might of the German Panther division left me a little disappointed. It's not very thrilling. Doubtless military theorists will revel in the fact that you can control up to 3,000 roving vehicles in real time battle conditions but be warned that, with thousands of possible options and outcomes, *Campaign* is very heavy going indeed.

Like *Gunship 2000*, *Campaign* also stumbles through its simulated 3-D battles, with the tanks assuming the shambling grace of a drunkard, and an overhead planning aspect reminiscent of Montgomery's war room during the Normandy invasions. This a historians' war game. Anybody else will find it meaningless, lacking in excitement and just

too heavy to get into, but if you have the time and patience, the incredible depth will eventually pay dividends.

Historyline 1914-1918 on the other hand still ranks as a highly enjoyable strategy experience - easy to get into and curiously addictive considering the whole game is set during the first World War. The game engine which is based on Blue Byte's

These games could surely be picked up in bargain bins much cheaper than this, and you wouldn't get saddled with *Campaign*...

previous hit, *Battle Isle*, has been optimised and makes for a smooth flowing game which is surprisingly easy to keep up with.

The whole game is child's play to get to grips with due to the

ALTERNATIVES



PANZER GENERAL
Mindscape • £44.99 • 83%
Great for beginners, and very user-friendly.



THE GRANDEST FLEET
Millenium • £49.99 • 79%
Especially playable in two player mode.



BATTLE ISLE 2
Blue Byte • £29.99 • 88%
Superb strategy, easy to play and long lasting.



Historyline's clear presentation makes it a cinch to play and you also have the added realism of different terrains posing real problems for your army.

excellent user interface which is entirely icon driven using clear, obvious symbols that can be understood without wading through a two ton manual.

You can move infantry, attack arms factories, re-supply at depots, and even bring in the cavalry to reinforce your frontline with a single click of the mouse. A far cry from the stretching of the thin blue line that seems to be the main method of interaction in *Campaign*.

tackles it in an entirely different way. It is a blatant lie to say they are all classics, with *Campaign* turning out to be the real bad egg in the basket, but each do at least offer a decent challenge and lasting gameplay.

Historyline 1914-1918 is by far the best, but even *Gunship 2000* is worth a look. At £34.99 I would consider it, but these games could surely be picked up in bargain bins much cheaper than this, and you wouldn't get saddled with *Campaign*.

PAST GLORIES



Combat Classics 1
With *F-15 Strike Eagle 2*, *Team Yankee* and *688 Attack Sub*.



Combat Classics 2
With *F-19 Stealth Fighter*, *Pacific Islands* and *Silent Service II*.

COMBAT CLASSICS 3

Publisher
Empire Interactive
Tel: 0181 343 7337
Price: £34.99

Minimum System
386DX 25 or better, 2Mb RAM, VGA.
Supports Tseng, Cirrus and older sound cards, but may not recognise newer ones. Joystick useful on *Gunship 2000*

For
Can be educational
Full of big guns and explosions

Against
War, what is it good for? Absolutely nothing.
May encourage you to pull a gun on a German visitor
Very boring

Ratings
Gunship 2000: 70%
Campaign: 67%
Historyline 1914-1918: 87%

76%

Dark Forces

LucasArts/Virgin • (0181) 960 2255 • March

Doom addicts will be pleased to know that Virgin's *Dark Forces* should be ready this March. Structured very much like ID's two gore-fests, the game even uses the same keys, but employs far more strategy elements.

You play a lone rebel agent sent into various Imperial bases to uncover a dastardly plan by the Empire to create the ultimate killing machine, codenamed Dark Trooper. Throughout the 15 structured missions you must



find out more about the Empire's plans and try to foil them in time. Locations include Jabba the Hutt's palace, Blood Moon, the Death Star and even Darth Vader's flagship, Executor.



Storm Troopers and Imperial officers edge forward while you try desperately to fend them off with one of the weaker weapons.



Now you're in familiar *Doom* territory and to give the game an added edge (rumours that LucasArts were using the same 3-D engine as ID are complete tosh) you can look up and down

in order to take out sneaky stormtroopers. None of this shooting at any height business, you actually have to be accurate as well as suicidal!

Dark Forces features an impressive array of goon-busting hardware, including a four way plasma blaster, thermal detonators, mines, rapid fire lasers and the obligatory BFG, which looks like a bolt-on Sherman tank!

The graphics are from a *Star Wars* fan's wet dream and feature brilliantly drawn Gammorean guards, stormtroopers, and even that little toaster on wheels that you see for a brief second in the first film.

With the digitally remastered films now flying off the shelves, this is the only way to become the ultimate fan and actually take part in *Star Wars*. Full review next issue.

Full Throttle

LucasArts/Virgin • (0181) 960 2255 • March



The other spring release from Virgin is *Full Throttle*; a hell's angels' dream! This is a point & click adventure where you control a hairy biker called Ben, who's been framed for murder and must now find the real culprit.

Programmed by selected geniuses from the teams who brought us the hilarious *Sam & Max Hit the Road* and *Day of the Tentacle*, it leans towards the

same wicked sense of humour as the earlier games in terms of storyline and graphics, with cartoon link sequences and even an arcade bike section. *Full Throttle* should eventually prove to be more than just another adventure and the shock news is that Mark 'oops I've crashed my car just before Empire Strikes Back' Hamill is doing the voice over. Full review from the Black Widows soon.

Flight Unlimited

Virgin • (0181) 960 2255 • March

Ever wanted to really fly? And no, I don't mean swoop over a chequerboard landscape with contour lines and bright white square houses, I mean fly through fully texture mapped and highly realistic surroundings.

Flight Unlimited is a truly revolutionary flight sim because the graphics, controls and inertia effects are exactly what you would experience if you were up in the air yourself. Nothing has been left out, and we mean right down to the complex rudder controls and advanced stall and wind slide stunt techniques.

You control five different stunt planes flown from five different airfields (mid-American plains and snow mountain peaks to name two) and the idea is to simply get up in the air and enjoy yourself, oh, and learn a few stunt manoeuvres from a real life expert who gives you tips and tutorials all the way. There are no missiles or MiGs to



avoid, just you and the plane at 30,000 ft. Enjoy.

The graphics in *FU* have to be seen to be believed (try playing the video demo on this month's CD) and all are real locations in the US that have been digitised, stereo imaged and texture mapped into the game for a highly realistic experience.

Apparently the game is so realistic, you can actually reduce the number of flying hours needed to get a pilot's licence! *FU* is also completely compatible with the VR helmet, which allows you to look around as you fly, and will be with us for review next issue. If you're serious about flying, check it out.

GOTCHA!

Coming soon from MicroProse is the excellent looking *Navy Strike* which should titillate flight sim fans no end as well as giving EA's *US Navy Fighters* a good run for its money. Another game to look out for is *Pizza Tycoon*, the bizarre continuation of the 'Tycoon' series which includes *Railroad* and *Transport*. This game sees you building up a huge chain of fast food pizza joints and it allows you to change everything from the recipes to the employees' uniforms. Of course there's the obligatory management and finances to sort out, but that's just what tycoon fans want, right?

Codemasters will be releasing *Psycho Pinball*, the hit Mega Drive game on floppy disk soon. There are four terrific tables on offer and all the usual bells and whistles, but can it hope to rival Gametek's monopoly with *Pinball Dreams* and *Fantasies*?

From Core, we've uncovered *The Scottish Open: Virtual Golf*, which is a top notch golfing sim featuring rendered golfers and a host of 'virtual' camera angles to view the course. This is the first golf game to feature a fully rendered, texture mapped, 3-D real time environment (what a mouthful, said the actress to the Bishop!) which has been created on SGI workstations. It looks amazing, but will it better the accuracy of Microsoft's *Golf*?

Oops, did I mention *Star Trek: TNG - A Final Unity* on CD-ROM? Well, this is the highly acclaimed US game based on the hit *Star Trek* spin-off series. The game is one of the most accurate to date and features all the characters in full rendered splendour, as well as a cornucopia of missions on many different planets, mixed in with a bit of space battling and philosophising. Could this be the best *Star Trek* game ever? Why not try out our exclusive demo from MicroProse this month?

Super Karts

Virgin • (0181) 960 2255 • March



Also from Virgin is the stunning *Super Karts*, a pure adrenaline racing game which behaves just like a real go-kart and is best played with a Thrustmaster steering wheel. The graphics are cartoonish and colourful, but it is the true-to-life driving that really makes it special. Watch out for a review next issue.

Front Lines

Daze Marketing • (0171) 372 7435 • February

A must for strategy war fans is Impressions' forthcoming release, *Front Lines*. Set in 2040 on the 100th anniversary of Pearl Harbour, the world's super powers are once again at war and you are the supreme military commander charged with the task of winning it for one of them. At your disposal you have futuristic tanks, tech infantry (guys in fancy suits), missile bat-

teries and battle hovercraft and the whole game is played on an overhead representation of the battlefield.

This is really a game for anyone who's ever wanted to go to high tech war, and Impressions have included detailed screens on all the vehicles as well as a mission editor and fully animated scenes showing your boys at work.



Aside from the promising *Tank Commander*, Domark have also announced *Orion Conspiracy* and *Absolute Zero*. Previously called *Cereberus*, *Orion Conspiracy* is a SVGA adventure set on a tiny research station near a black hole. You, as Devlin Marshall, must discover the sinister plot surrounding your son Danny's death.

Absolute Zero follows the events of a war between the humans and some previously sleeping aliens who have been awoken by recent mining. This is a *Wing Commander*-style adventure/shoot-'em-up, but the added twist is that you view the events through seven, count ▶



Whilst hijacking a payroll van with a cow as hostage (the cow is a stooge), Jack T Ladd is captured by the feminist Ysanne Andropath. Hold onto yer jewels!

You play Jack T Ladd in this new Sci-Fi comedy adventure from Psygnosis. Jack is a nefarious fellow and whilst holding up a payroll truck using a jersey cow as a hostage ("Don't move or the cow gets it between the horns!") he is captured by a superbly rendered spaceship

belonging to Ysanne Andropath, an extreme feminist who takes exception to Jack's 'fancy a quick feel' advances.

Guilty, presumably an indictment of Jack T Ladd's crimes against womankind, is a side-on point & click adventure that takes place on Ysanne's ship and vari-

Guilty

Psygnosis • (0151) 709 5755 • March

ous planets such as ice, battle-ground, casino and tax world.

The novel twist is that in this age of equality you can of course play either of the two protagonists. I have to warn games-players of a Mary Whitehouse disposition that there are plenty of rude innuendoes and quick-fire sexist banter – mainly from Ysanne!

As Jack you are imprisoned in the ship's cells and must first escape before wreaking havoc in the main reactor. To aid you in the adventure is a simple selection of icons which control your every move. 'Walk to, talk to, take and use' are all that's need-

ed to complete the game. Puzzles include flicking the light switch in your cell so much that the bulb goes and the servodroid lets you out to change it, and even setting a nuclear warhead to explode in the mine to create fuel for the ship.

Full review of PC CD-ROM *Guilty* next issue.



Fighter Wing

Merit • (0191) 385 7755 • March

New from Merit Studios is an extremely good looking fighter aircraft simulation called *Fighter Wing*. Now this is no US Navy *Fighters* or *Tornado* as far as depth and accuracy is concerned, because it is designed for you to simply 'sit and shoot' straight away without learning all the technicalities of flying a modern day aircraft. This allows for a more shoot-'em-up style game using modern fighter planes.

Fighter Wing can be played in VGA or SVGA modes with a

stunning network version that is incredibly addictive because you can concentrate on fragging your opponent *Doom*-style! It also features actual footage from *Firepower* (which is apparently a series on the Discovery cable channel) to liven up the briefing scenes, and as you can see from the screen shots the game uses a rather nifty 3-D engine to create some of the most realistic objects since, well, since the last really realistic 3-D object generator.



Tank Commander

Domark • (0181) 780 2222 • March



Big Red Software are the kind of close knit programming house that produce really fine and original games. *Tank Commander* is an arcade style tank game that puts you in a Challenger II as you attack enemy forces in such adverse conditions as snow, desert and the green fields of western Europe.

There are six views, including chase tank, infra red, gunner and turret, and amongst your weapons are homing missiles fitted with on-board cameras so that you can see the impact.

Tank Commander also features a unique chopper scout feature

which allows you to control a camera aboard a small Huey to survey the surrounding area. Couple this with an *Apocalypse Now*-tastic air strike and you've got one of the most realistic tank games since *Armoured Fist*.

You can even install a 16 player network link-up and be treated to texture mapped landscapes, a satellite view, over 40 missions and some terrific Silicon Graphics rendered cut sequences.

TC should be with us for review next issue and looks hot indeed. Expect a fully playable demo too!

Sim Series

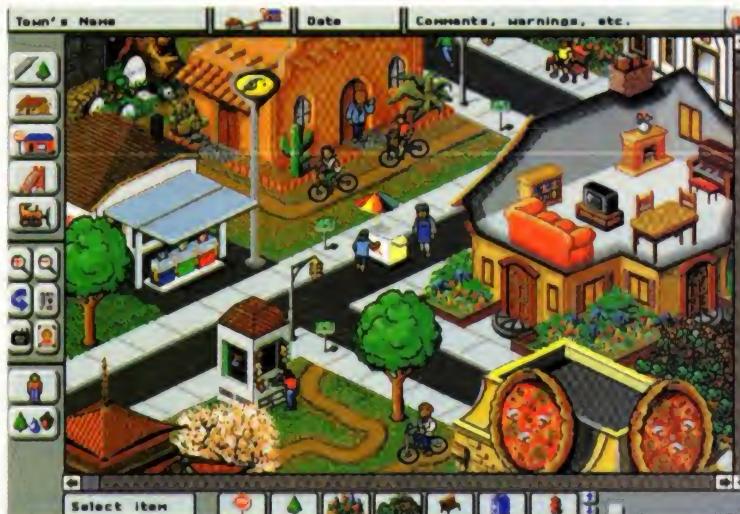
Maxis • 0171 490 2333 • March

We've had *Sim Ant*, *Earth*, *City* and *City 2000*, and now Maxis have announced a frontal assault of three new 'sim' games coming in March. The first is *Sim Town*, a family game designed with younger players in mind and an ecological theme running throughout.

Much more simple than *Sim City 2000*, *Town* allows for a more personal interaction with its inhabitants and the graphics are likewise far larger and more childlike than the well sculptured 3-D masterpieces in *Sim City 2000*.

Another interesting ingredient is the fact that you can create your own people right down to the clothes they wear, giving them your own personal touch. You can also add small text sequences, so that when you are playing the game you will be able to recognise your own unique characters.

With neat touches like small animations when you click on different buildings and their resultant sound effects, *Sim Town* is



perfect for introducing younger players to the more serious Sim games and there are plenty of new buildings to place and characters to talk to in order to find out if they are happy living in your town.

Sim Tower was not originally a Maxis game, but programmed by a Japanese company called Handbook. However, because it fitted in with the other *Sim* games, it was consequently signed up. Maxis's ultimate intention (technology permitting) is to create a huge master Sim program that will incorporate all the other sub-games. *Sim City* for example would be inside *Sim Isle* and *Sim Rain*, and *Sim Tower* would live inside *Sim City*. This would encompass a 3-D routine that allows you to fly over your own cities and even race in them. Plus there would be scope for mini games like *Sim Golf* to be accessed through the network. For more information, see the Maxis feature next issue

Sim Tower Sim Town Urban Renewal

Merit • (0191) 385 7755 • March



Alex Dampier Pro Hockey '95

Merit • (0191) 385 7755 • March



Also from industrious Merit is *Alex Dampier Pro Hockey '95* which looks to be an isometric ice hockey game featuring large and colourful sprites, very much like the Electronic Arts hockey games on the Sega Mega Drive. As usual you also get the obligatory full motion video cut-aways featuring, in this case, real life commentator Bob Connor.

Both games will be out soon so expect reviews in the April issue.

GOTCHA!

'em, seven characters. Both games should be out in March and are both CD-ROM only.

Details on UBI Soft's *Action Soccer* are scarce, but we do know it is a soccer game, and er, is packed full of action. Yes, well. The game has a very arcade feel, can be played in either side-on or isometric perspectives and will feature frenetic commentary by one of Sky TV's very own commentators.

Renowned French software house, Titus have quite a few titles on the way, but first of all it's *Virtua Chess*. This game combines state-of-the-art 3-D rendered graphics with one of the most powerful Chess engines in the world. It is reputed to be three times faster than *Chessmaster 4000* and *Kasparov's Gambit*, and features a massive library of classic moves, plus a network option. *Virtua Chess* should be out end Feb/March.

After the brilliant *Alone in the Dark 3*, Infogrames have announced *Chaos Control*, a Sci-Fi adventure set in 2025 on Manhattan island, which incidentally has been taken over by aliens. You play Jessica Darkhill in an effort to protect the Earth's orbital defence shield and prevent the alien invaders from taking over the planet. *Chaos Control* features over 30 minutes of FMV (but don't all CD-ROM adventures these days?) and will be released in March. Expect a review soon.

Infogrames will also be debuting *A-IV Network\$* – a sim based on the real estate business (Americanisms ahoy!), where you can build all manner of different empires, dabble in the stockmarket, and then throw yourself off a roof! Fun for all the family.

Interplay are well on the way to becoming one of the most prolific software companies on the PC with loads of up-and-coming titles including *Descent*, *Dungeon Master II: Stonekeep*, *Beat the house Bridge*, *Frankenstein*, *Kingdom*, *Sim Ant*, *Sim Earth*, *Virtual Pool* and *Zombie Dinos*. All will be featured in these very pages soon, no doubt.

Hot news from Virgin is *The Daedalus Encounter* starring Tia Carrere (*Wayne's World*, *Rising Sun*, *True Lies*) as Ari, a buxom survivor of an intergalactic war. Your mission is to guide Ari and her partner Zack through an alien spaceship to prevent it crashing into a binary star and causing untold damage. This is billed as a fully interactive Sci-Fi adventure and certainly looks promising.

TIPS



DESCENT

Areas that are flame coloured will restore your energy to full. Fly through and top up.

FIFA INTERNATIONAL SOCCER

Here's how to adjust the skill levels of the computer opponents:

Before the game starts, select the set-up menu and move the icon so that you have control of both players, then select the starting team line-up. Mess around with the computer's team, so he has goalies as attackers, attackers as goalie, select the worst players, and so on. After doing this, go back and change the control set-up so that you only have control of one team. Now start the game and you should slaughter him.



To make it even easier, change the Team Coverage. Push the opponent's defence right forward, the midfield in the middle of the pitch, and give them a formation that just doesn't suit the type of players they have.

MEGARACE

Here is an alternative edit cheat. Simply grab a Hex editor like *DiskEdit* from Norton and do the following:

Edit the ninth and the 11th byte of the file using the table below and then start as usual.

Track 1: NewSan1	00 00
Track 2: Maeva1	01 01
Track 3: NewFac1	02
Track 4: NGLoop	03 03
Track 5: Suburb1	04 04
Track 6: NewSan2	05 05
Track 7: Meava2	06 06
Track 8: Particle	07 07
Track 9: NewFac2	08
Track 10: Yunkard	09 09
Track 11: Maeva3	0A
Track 12: NewFac3	0B 0B
Track 13: NewSan3	0C 0C
Track 14: Lastlevel	0D 0D



Bonus tracks:

Track 15: Skyholder	0F 0F
Track 16: Tokyo	0E 0E

COLONIZATION

See how much money you have then convert this figure to hexadecimal using a calculator. Search through the saved file (with NU or any other editor)

until you spot it and then change it to 88 13 for \$5,000, 18 10 for \$10,000, or 50 C3 for \$50,000.

HERETIC

Type in the following words while playing the game to find out a few surprises:

KITTY – Walk through walls

RAVMAP – Shows entire map in map mode (hit tab for map mode). Type ravmap again to show where all the monsters are. Type ravmap a third time to revert to the original.

MASSACRE – This kills all of the monsters on the current level.

SKEL – This gives you all the keys.

RAMBO – This gives you all the weapons and 200% Armor.

QUICKEN – God mode – you can't be harmed.

PONCE – Full health.

SHAZAM – Weapon power-up (Tome of Power) lasts for 30 seconds.

ENGAGE – Level warp. Type level number after.

GIMME – This gives you the other *Heretic* items from a menu. It will ask for an item letter (a-j) and a quantity (1-9). Here are the letters for the gimme command:

a – Ring of Invincibility

b – Shadowsphere (Partial Invisibility)

c – Quartz Flask (Purple Vial, gives 7 chain links of health)

e – Tome of Power (Black Skull Book, gives your weapons

superpowers!

f – Torch (Light up dark areas)

g – Bomb of the Ancients (If you lay one down, move away fast!)

h – Morph Ovum (Turns the enemy into a chicken!)

i – Wings of Wrath (You can fly!) Finally, type **COCKADOODLE-DOO**. This turns you into a chicken for a short period of time.

STAR CONTROL II

Did you know you can sell your landers for an unlimited amount of time? Now you do.

MICRO MACHINES

On level eight – Bermuda Bath Tub – there is a cheat. Near the end of the lap there is a yellow tube. Steer around the tube instead of going through it and you should go right off the screen and emerge halfway around the next lap. It's tricky to perform, but practice makes perfect.

GENESIA

The Barracks are used for both taxes and recruitment. Setting tax levels high, will enable you to





afford more for your army. High taxes though will also decrease the amount of people joining up voluntarily.

The Drill is needed to obtain sufficient stone and metals. Don't place it too close to civilisation as they won't be very happy.

Houses are an obvious necessity for people to live in. As your inventions progress and new ideas discovered, the variety of household buildings will increase, allowing for families etc.

Shops provide a source of income and a way of getting rid of any surplus goods from your warehouse. You can also sell goods to other players.

Taverns are a good source of boosting morale and more importantly attracting outsiders. These outsiders will offer you information on the location of the precious jewels, at a price of course.

Temples are a necessity for the storage of the precious jewels, of which seven are needed to complete the game. Also available in the temple is the ability to make an offering to your preferred deity, boosting morale.

Warehouses are essential for storage of raw materials for longer than one season. Without materials you are unable to build anything.

Wells are obviously an essential source of water, and are needed if you're going to survive.

The Workshops are another essential building, used by the Inventors and Blacksmiths to design and produce all your weapons, vehicles etc.

DESERT STRIKE

Try out this two codes:
CMMMMMMC and CMNHYMM-MM.



Action Replay Codes

Any codes can be made to update memory about 5 times a second, by placing an asterisk (*) in front of it. This is called a Rapid code. More than two Rapid codes will normally slow down the game, so don't go overboard!

Arena: Elder Scrolls

- A3BE00A00: Unlimited bonus points
- A3AD60B64: Unlimited health points
- A3AD30C64: Max INT points
- A3AD30D64: Max WIL points
- A3AD30E64: Max AGI points
- A3AD30B64: Max STR points
- A3AD30F64: Max SPD points
- A3AD40064: Max END points
- A3AD40164: Max PER points
- A3AD40264: Max LUC points

Cannon Fodder

- CF_ENG291D0E63: Infinite recruits
- CF_ENG291C0C46: level select
- CF_ENG2AB10B63: Infinite rockets
- CF_ENG2AB10563: Infinite grenades
- CF_ENG2AAB0DFF: Level skip to end
- CF_ENG29200A4A: Soldier1 identity
- CF_ENG29200B00: Soldier1 life after death
- CF_ENG29200C0F: Soldier1 rank
- CF_ENG292104E0: Soldier1 total kills
- CF_ENG29210503: Soldier1 total kills

Comanche: Maximum Overkill

- COMANCHE1B540409: Infinite Hellfires
- COMANCHE29A50B03: Number of remaining targets

Desert Strike

- DESERT1DE00409: Infinite hellfires
- DESERT1DDE0863: Infinite hydras
- DESERT1DDC0C63: Infinite Guns
- DESERT1A790603: Infinite Lives
- DESERT1CCA0458: Infinite Armor

D-Day

- DDAY41D70258: Infinite tank missiles
- DDAY41D70039: Infinite tank bullets
- DDAY405408FF: Speed of plane

DOOM v1.2 Commercial (Disk)

- +DOOM19A95063: Infinite Bullets
- +DOOM19A95431: Infinite Shotgun Shells
- +DOOM19A958FF: Infinite Cells
- +DOOM19A95C31: Infinite Rocket Shells
- +DOOM19A97807: 1 Point walk
- +DOOM19A97801: Walk Through Walls
- +DOOM19A97802: Invincible
- +DOOM19A97803: Walk Thru Walls & Invincbl
- +DOOM19A97800: Normal
- +DOOM19A90801: Get Blue Key
- +DOOM19A90C01: Get Yellow Key
- +DOOM19A91001: Get Red Key
- +DOOM19A93801: Get Shotgun
- +DOOM19A93C01: Get Chaingun
- +DOOM19A94001: Get Rocket Launcher
- +DOOM19A94401: Get Plasma Gun
- +DOOM19A94801: Get Plasma Launcher
- +DOOM19A94C01: Get Chainsaw
- +DOOM19A8ED08: Partial Invisibility ON
- +DOOM19A8ED00: Partial Invisibility OFF
- +DOOM19A8F401: Get Computer Area Map
- +DOOM19A8F910: Light Amplification ON
- +DOOM19A8F900: Light Amplification OFF
- +DOOM19A9AC01: Rapid Fire

DOOM 2 v1.666 (Disk)

- +DOOM21B3B7C63: Bullets
- +DOOM21B3B8031: Shotgun Shells
- +DOOM21B3B84FF: Plasma Cells
- +DOOM21B3B8831: Rockets
- +DOOM21B3BA401: Walk through walls
- +DOOM21B3BA402: Invincible
- +DOOM21B3BA403: Walk T Walls & Invincible
- +DOOM21B3BA404: 1 Point walk
- +DOOM21B3BA400: Normal
- +DOOM21B3B6001: Get Shotgun
- +DOOM21B3B6401: Get Chaingun
- +DOOM21B3B6801: Get Rocket Launcher
- +DOOM21B3B6C01: Get Plasma Rifle

- +DOOM21B3B7001: Get Plasma Rifle
- +DOOM21B3B7401: Get Chainsaw
- +DOOM21B3B7801: Get Super Shotgun
- +DOOM21B3B2401: Get Blue Key
- +DOOM21B3B2801: Get Yellow Key
- +DOOM21B3B2C01: Get Red Key
- +DOOM21B3B1C01: Get Computer Area Map
- +DOOM21BBE002: Get Radar Map
- +DOOM21BBE000: Turn off Radar Map
- +DOOM21B3B1508: Partial Invisibility ON
- +DOOM21B3B1500: Partial Invisibility OFF
- +DOOM21B3B2110: Get Light Amp Visor
- +DOOM21B3B2100: Light Amp OFF
- +DOOM21B3BD801: Rapid Fire

DOOM 2 v1.666 (CD)

- +DOOM21B3BCFF: Bullets
- +DOOM21B3B40F: Shotgun Shells
- +DOOM21B3D4FF: Plasma Cells
- +DOOM21B3D8FF: Rockets
- +DOOM21B3BF401: Walk through walls
- +DOOM21B3BF402: Invincible
- +DOOM21B3BF403: Walk T Walls & Invincible
- +DOOM21B3BF404: 1 Point walk
- +DOOM21B3BF400: Normal
- +DOOM21B3BB001: Get Shotgun
- +DOOM21B3BB401: Get Chaingun
- +DOOM21B3BB801: Get Rocket Launcher
- +DOOM21B3BBC01: Get Plasma Rifle
- +DOOM21B3BC001: Get Plasma Launcher
- +DOOM21B3BC401: Get Chainsaw
- +DOOM21B3BC801: Get Super Shotgun
- +DOOM21B3B7401: Get Blue Key
- +DOOM21B3B7801: Get Yellow Key
- +DOOM21B3B7C01: Get Red Key
- +DOOM21B3B6C01: Get Map
- +DOOM19BC3002: Get Radar Map
- +DOOM19BC3000: Turn off Radar Map
- +DOOM21B3B6508: Partial Invisibility ON
- +DOOM21B3B6500: Partial Invisibility OFF
- +DOOM21B3B7110: Get Light Amp Visor
- +DOOM21B3B7100: Light Amp OFF
- +DOOM21B3C2801: Rapid Fire

Frontier Elite 2

- FRONTIER182F03FF: Lots of money (when used with the 2 codes shown below).
- FRONTIER182F04FF: Lots of money (see above and below).
- FRONTIER182F05FF: Lots of money (see above).
- FRONTIER182F09F0: 240 Cabins.
- FRONTIER182F0B01: Unlimited cargo.
- FRONTIER30D30C91: 5MW Pulse laser (front).
- FRONTIER30D30AXX: Hyperdrive (replace XX with 02-07).
- FRONTIER183007FF: Unlimited water.
- FRONTIER183009FF: Unlimited liquid oxygen.
- FRONTIER18300BFF: Unlimited grain
- FRONTIER18300DFF: Unlimited fruit and veg.
- FRONTIER18300FFF: Unlimited animal meat.
- FRONTIER183101FF: Unlimited synthetic meat.
- FRONTIER183103FF: Unlimited liquor.
- FRONTIER183107FF: Unlimited medicines.
- FRONTIER183109FF: Unlimited fertilizer.
- FRONTIER18310BFF: Unlimited animal skins.
- FRONTIER18310DFF: Unlimited live animals.
- FRONTIER183201FF: Unlimited luxury goods.
- FRONTIER183203FF: Unlimited heavy plastics.
- FRONTIER183205FF: Unlimited alloys.
- FRONTIER183207FF: Unlimited precious metals.
- FRONTIER183209FF: Unlimited gem stones.
- FRONTIER18320BFF: Unlimited minerals.
- FRONTIER18320DFF: Unlimited hydrogen fuel.

FRONTIER18320FFF: Unlimited military fuel.

FRONTIER183301FF: Unlimited hand weapons.

FRONTIER183307FF: Unlimited industrial parts.

FRONTIER183309FF: Unlimited computers.

FRONTIER18330BFF: Unlimited air processors.

FRONTIER18330DFF: Unlimited farm machinery.

FRONTIER18330FFF: Unlimited robots.

FRONTIER183401FF: Unlimited radioactives.

FRONTIER183403FF: Unlimited rubbish.

Mortal Kombat

- +MK1BC07480: Infinite health player1
- +MK1BC0D800: Infinite health player2
- +MK1BC11D01: Player1 no. of wins
- +MK1BC11F01: Player2 no. of wins
- +MK1BC06408: Player1 select character
- +MK1BC0C808: Player2 select character
- +MK1B8A6409: Player1 infinite time
- +MK1B81A809: Player2 infinite time
- +MK1BC1540D: Level select 0-D

Pinball Dreams 2

PD213320000: Unlimited balls.

Pinball Fantasies

- TABLE11D020E01: Infinite Balls Table 1
- TABLE21C190401: Infinite Balls Table 2
- TABLE31B6D0E01: Infinite Balls Table 3
- TABLE419ED0401: Infinite Balls Table 4

System Shock CD

- +SSHOCK2832BA0A: Infinite Darts (Item 2)
- +SSHOCK2832BF00: Infinite Sparq Beam (Item3)
- +SSHOCK28317406: Infinite Medi Kits
- +SSHOCK282EE4FF: Infinite Energy
- +SSHOCK282EE4FF: Infinite Health

Theme Park

- +MAIN36570AFF: Lots of cash
- +MAIN36570BFF: Lots of cash
- +MAIN36570CFF: Lots of cash
- +MAIN21C2F49B: Maximum upgrade ride
- +MAIN21C2F526: Maximum upgrade ride
- +MAIN21C2F69B: Maximum new ride design
- +MAIN21C2F726: Maximum new ride design
- +MAIN21C2F89B: Maximum new shop design
- +MAIN21C2F926: Maximum new shop design
- +MAIN21C2FA9B: Maximum staff training
- +MAIN21C2FB26: Maximum staff training
- +MAIN21C2FC9B: Maximum new features
- +MAIN21C2FD26: Maximum new features
- +MAIN21C2FE9B: Maximum upgrade facilities
- +MAIN21C2FF26: Maximum upgrade facilities

TIE Fighter

- TIE59890F7F: Battle1 Infinite left laser power
- TIE598A057F: Battle1 Infinite right laser power
- TIE59AB097F: Battle2 Infinite left laser power
- TIE59AB0F7F: Battle2 Infinite right laser power
- TIE59890F7F: Battle3 Infinite left laser power
- TIE598A057F: Battle3 Infinite right laser power
- TIE59AB097F: Battle4 Infinite left laser power
- TIE59AB0F7F: Battle4 Infinite right laser power

Ultima 6

- ULTIMA634040563: CHAR 1 ENERGY
- ULTIMA634040663: CHAR 2 ENERGY
- ULTIMA634040763: CHAR 3 ENERGY
- ULTIMA634040863: CHAR 4 ENERGY

Cyberia

Stuck on Interplay's latest Motion Capture adventure? Well fret no more because here's part one of our solution, straight from the programmers' mouths.

Overview of the Rig

The Rig is your first stop in Cyberia. Immediately after disembarking your hovercraft you find yourself in the Rig's docking area. A door on the right leads to Gia and the Gunnery Chair. The door on the left leads to a lift which connects to the hangar, where a Transfighter is ready. Depending on your actions while in the Rig, you may also visit the warehouse. From here you must climb a ladder to reach the hangar.



Getting past Gia

When you meet Gia, she immediately tells you to turn around and disarm your weapon. To comply with her request, simply press the left arrow button. Zak will then turn and disarm. If you choose any other key, or wait too long without reacting, you will be killed by Gia.

Gunnery Chair

You must defend the Rig from the furious onslaught of Cartel forces. How well you can do in the Gunnery Chair is a good indicator of the arcade difficulty setting you should be using. If you are playing on hard or medium difficulty, and cannot complete the Gunnery Chair, try restarting the game on an easier level.



As you play, pay careful attention to your radar, located on the bottom left of your screen. The control panel, on the bottom middle of the screen, has three gauges. The vertical gauge on the left displays your shield levels, which recharge whenever damage is not being taken. The horizontal gauge on the bottom of the control panel displays your weapons energy level. Weapons energy recharges when not in use. The six blue indicators on the control panel display hull damage. If too much hull damage is taken, the Rig is destroyed.



Kissing Gia

After you have successfully completed the Gunnery Chair, Gia returns to congratulate you and offers you a kiss. To accept her offer, either press the up arrow (forward), or just wait and she will kiss you. To decline, press the down arrow (backwards). If you do kiss her, Santos, who is watching on his control monitor, becomes jealous and you are rendered unconscious by a guard. There is no way to avoid this if you kiss Gia.

The Elevator

The lift in the Rig takes you from the upper dock to the hangar, where your plane is waiting. To operate the lift, walk to the buttons in the corner of the room. Your view will switch to a Visor View. Use the arrow keys to move your hand to the Hangar Button, then press the space bar to select it. The view will switch back to normal and you can walk



into the lift and ride up to the hangar.

The Guards

If you do not kiss Gia you should not have much trouble with any of the guards in the Rig, as long as you follow their directions.

If you do choose to kiss Gia, Santos is enraged and orders you killed. If you escape from Santos, you find yourself in a warehouse. Be sure to get the power pack from Santos's weapon before you proceed. In one of the rooms in the warehouse you will find a ladder.



After climbing the ladder and walking down a ramp, there is a door on your right which leads to the hangar. Once inside, you must quickly lock the door behind you, otherwise a guard will open it and shoot you in the back. When the door is locked, turn so you are facing the crates by the door and walk towards them. The view will change, showing you looking out from behind the crates. A guard is right down the hall from you, receiving a transmission that you have escaped. As the guard begins walking towards your position, the view changes back to normal walking view.

To fire your weapon, push the right arrow key to raise it then hit

spacebar to fire. To shoot this guard you must wait until he is raising his weapon towards you. If you shoot too early you will miss and he'll kill you. Before boarding your plane, go left, then left again to find a bomb attached to the fuselage.

Bomb Puzzle



Easy (Level 1)

First do an MRI test on the bomb by pressing F2. There are seven switches in one row (of which only one is active), a vibration sensor and an on/off switch. First toggle the vibration sensor switch, then toggle the other active switch. Do not touch the on/off switch.



Medium (Level 2)

First do an MRI test on the bomb by pressing F2. There are seven switches in one row, a vibration sensor and an on/off switch. First toggle the vibration sensor switch, then toggle the fourth switch from the left, and then the second switch from the left.

Hard (Level 3)

First do an MRI test on the bomb by pressing F2. There are seven switches in one row, a vibration sensor and an on/off switch. First toggle the vibration sensor switch, then toggle the fourth switch from the left, and

GENERAL HINTS

Difficulty Levels

The arcade difficulty level you set when first starting *Cyberia* adjusts the accuracy required for making hits on enemy units. The easy setting displays large target boxes, making the enemy targets much easier to hit. The target boxes reduce in size as the difficulty level increases.



then the second switch from the left. Now toggle the first switch on the right (not the on/off switch). Then toggle the second switch from the right, and then the third from the right.

Transfighter Missions

Open Ocean

You learn that the automatic weapon systems aboard your craft are not functioning, and control is switched to manual operation. Your goal in this mission is to successfully destroy a large enemy ship by exploding its fuel tanker, designated by a



blue target box. To get there, you will have to fly past numerous enemy aircraft and ships intent on destroying you. Unless you successfully detonate the fuel tanker your plane is destroyed.

Military Islands

You must pass over a heavily guarded enemy munitions dump before you destroy an important enemy submarine. Destroy as many targeted munitions build-



Transfighter System Controls

While playing the Transfighter sequences there are three small indicators near the top of your screen. The scale on the top right shows your shield levels. Each hit to your ship depletes your shield levels. When the shields are low, hits from enemy weapons will cause damage to

ings as possible along the way, and watch out for cruise missile launches as you near the enemy sub. Take careful aim at the blue target box as you arrive over the submarine. You must hit this target to destroy the sub or you will be destroyed.

Norway

Your recent activity in the area has been detected, and long range enemy defences are in place. To avoid these defences, you must pass under enemy radar by flying through the fjords of Norway. Be alert to the



numerous tanks stationed in the area, as well as air defences. A large hovercraft, which rises from behind the canyon walls midway through the mission, must be shot quickly, or you will be destroyed.

Archangel Military Port

Your mission is to fly through the military port in order to reach a freight tunnel through the moun-



tains. Keep alert for the numerous air and ground defences in the area. When you reach the tunnel, you are informed by your onboard computer that the entrance is shielded, and that you must disable the shield generator located elsewhere in the facility. You must now fly back to destroy the generator. As you

your ship. Shield energy recharges when the system is not being fired upon. The scale on the top left represents weapons energy levels. As energy is depleted, weapon effectiveness is reduced, until, at very low levels, firing becomes intermittent. Weapons energy recharges while weapons are not in use.

make a pass over the area to begin your attack, a large gun is readied against you from behind the generator building. You must destroy the generator building or you will be shot down by this gun and die like a dog!

Freight Tunnel

All that is required is your safe passage through the tunnel. Be careful not to fire upon the fuel trucks moving through the tunnel, which are designated by



blue target boxes; the explosion will destroy the tunnel and everything inside, including you!

Zubrovska

You must reach a refuelling station, where allied troops are standing by to assist you; but first you must pass through the dangerous airspace of the town



of Zubrovska, which is currently being invaded by enemy aircraft. The knack to this mission is to be very accurate with your shots at the beginning of the mission, using as little of your weapons energy as possible, so you have it available when things get hectic. Try clicking off individual shots whenever you can, rather than holding down your trigger or mouse button. This will greatly reduce the demand on your weapons system. The hardest part of this mission comes near

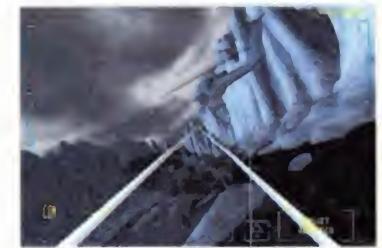
Beneath the weapons energy is a scale representing actual hull damage. When this level drops to zero, the hull has been breached, and your plane will explode. This scale does not recharge, because hull damage cannot be repaired during flight.

After each successful mission, all system settings are reset to their fully charged levels.

the end, when three fast enemy planes attack with missiles. Pay close attention to where each of these planes appears on the screen, then go back and try to anticipate the arrival of each; readying your joystick a moment before each one appears. Once you can successfully pass this point, be sure not to shoot the helicopter which passes as your Transfighter lands, as the resulting explosion will destroy you.

Ice Canyons

This is a very difficult mission. The hardest thing is saving enough weapon and shield energy to defeat the huge enemy attack plane at the end of the mission. To do this you must strive to begin shooting at each enemy aircraft as soon as it is targeted, clicking off each shot



individually to conserve energy. Another difficult spot comes after making the sharp turn over the water, shortly after the battle with the two enemy helicopters. Immediately after making this turn, two targets will appear on the right side, one shortly after the other. You must destroy these ships quickly or suffer major damage to your aircraft.

When the final aircraft appears, quickly shoot out each engine and gun pod in turn to destroy it.

CONCLUDED NEXT MONTH!



Power Drives



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PC POWER MARCH 1995

If you haven't got a CD drive yet, then you simply haven't lived! Games, multimedia, films - they're all waiting for you on one of those tantalising silver disks. Jon Pyle, our resident technical expert, guides you through the minefield of what drives to buy and how to install them.

CD-ROM technology has been constantly evolving ever since the first CD albums became available. The initial developers' race to release the first CD-ROM drives, along with the public's readiness to part with hard cash to own one, has resulted in a market which began with no clear standard and is constantly diversifying.

Nowadays, CD games are becoming de rigueur on the PC and more and more top titles are sticking to this one format. *US Navy Fighters*, *Little Big Adventure*, *Menzobberanzan* and *Voyeur*, to name but a few, are some of the delights waiting for you once you've made the jump to CD-ROM technology, and let's not forget the multimedia products which are the CD's staple diet. Want to keep up with the Joneses? Then save up some serious cash and read on as PC POWER explains which CD drives are best for you – and how to fit them without blowing every fuse in the house!

The first choice you have to make is whether to buy the sound card and controller in one (more expensive), or separately. If you opt for the former, then go straight to the section headed drive speeds, as you will not have any incompatibility problems. If however you plump to save a few quid then you must make sure you have the right controller for the job. Read on.

There are now four main types of CD-ROM controller available, and the most expensive drives can run at four times the speed of a conventional audio CD player. By controller, I mean the connecting plugs inside your PC that allow information to be taken from the CD. At present the four standards available are SCSI (pronounced "skuzzy"), ATAPI, Panasonic and Sony. The SCSI standard is mainly used by specialised PCs that require a wide variety of peripherals such as tape streamers. IDE is used in preference to SCSI in most PCs purely because IDE drives and controllers are cheaper.

The diversity of standards adopted by different manufacturers creates a bewildering array of options for the first-time CD-ROM buyer. The current standards differ even at the simplest of levels. For example, Panasonic controllers use a 40-pin connector, while Sony's drives use 34-pin, and ATAPI drives

run through the same controller as your hard disk.

This has created a complicated market for controller cards, with most popular sound cards offering integral CD controllers for all types of CD-ROM except ATAPI. Dedicated controllers are also available for all types of drive.

With this perplexing soup of hardware, it is a wonder that CD-ROMs function at all, and to someone wishing to upgrade their machine with a CD drive, the choice and methods of connecting them must seem endless. The aim of this article is to make an attempt at the definitive guide to which CD-ROM drive is best for your hardware configuration, what type of controller to use, and how to fit them.

Drive Speeds

Four speeds of CD-ROM drive are available, namely single, double, triple and quad speed. Single speed drives are not often used now as they are too slow to run recent entertainment software and cannot run Video CDs, but they can still be used for reference CDs such as Microsoft's *Encarta*.

Double speed drives are currently the standard. They can handle nearly all current entertainment software, play video CDs (providing you have an MPEG card), and can switch back to single speed to read audio CDs.

Triple speed drives are just plain odd. They read at a slightly faster rate than double speed drives, but not fast enough to justify their name. This is due to the complicated error correction systems built into the drives. The end result is a drive which runs 100% error free, giving constant data transfer, but at a price which is not really justified in terms of speed. Triple speed drives are little-used devices, so much so that NEC are soon to stop producing their 3Xi triple speed drive and I would not be surprised if more man-

ufacturers followed suit. For these reasons, I would not recommend that you buy a triple speed drive.

Quad speed drives are a different story. They read at four times the speed of a conventional CD player and they are compatible with video CDs, plus they can deal with any entertainment or reference software available. Unfortunately, they have a price tag to match their capabilities and so a quad could be out of many people's price range.

Choosing a drive

When choosing a CD drive, the current configuration of your machine is all-important. If you have a sound card with a CD interface, or plan to buy one, then the Sony or Panasonic drives are ideal. But if you already have a sound card with no interface or do not plan to buy one, then the Phillips/IDE is the best solution. Why? I'll explain....

The Sony and Panasonic drives all require a controller specific to their drive type. This can come in one of two forms – a sound card equipped with a CD interface, or a controller card dedicated to that particular drive. The dedicated cards are less desirable because a sound card with a built-in controller will normally cost you less than a sound card and separate CD controller, plus the separate controller will consume an extra slot on your motherboard.

Phillips drives and others which use the IDE standard all connect to your computer's hard disk interface, providing it is an IDE interface. This means that they are not compatible with the SCSI standard used by a few specialised PCs. One way to tell an IDE controller from a SCSI controller is to look at the back of the card. SCSI controllers

usually have a massive 'Centronics' standard connector at the back. This resembles a huge 'D' shape with butterfly clips at either side. IDE controllers usually have the serial and parallel ports in place of this connector.

If your machine is not using a SCSI disk interface (and most PCs don't) then you will already have the required interface to control an IDE CD-ROM drive.

To summarise, the type of drive you use depends on what your system already contains. If you own a sound card which is capable of controlling a CD-ROM, then buy a Sony or Panasonic drive. If you own a sound card with no controller, then choose an ATAPI IDE controlled drive. If you own a machine which uses a SCSI controller, then a SCSI drive is the natural choice. The speed of drive you choose is governed purely by how much you can afford.

Which CD drive to buy?

The comparison (overleaf) of the double and quad speed drives available has been conducted using *PCCheck* from Eurosoft, (01202) 297315. The tests performed give an index for sustained data transfer rate (a non-stop read from the CD) and a random seek time (the time taken for the CD to locate a randomly selected area of the CD). Due to the variable nature of these tests (the random seek test in particular), each seek test was performed ten times and each transfer test five times, then the average index for each was taken. In addition to performance, the drives will be assessed on their general build quality, the controls provided on their front panels, and the overall ease of installation.



Sony CDU31A-82

Power Mark • Tel (0181) 951 3355 • £119 (+ £15 for controller)

The Sony CDU31A-82 is a very popular drive. Some of this popularity stems from the fact that Sony were once the only drive type compatible with video CDs, and although all double and quad speed drives available at the moment are video CD compatible, the reputation of Sony drives as the video CD standard still continues.

The Sony controller can occupy any ISA/EISA or VESA slot

CDU31A-82

Controller type: Sony dedicated controller (or soundcard)

Sustained transfer rate: 287.2kb/s
Random seek time: 468ms

and fits easily. It features a stereo jack socket giving audio output, and a 34-pin connector for a secondary CD-ROM to be added should the need arise.

The Sony's drive mechanism is not of a very high build quality though. The CD tray is spring-loaded, so pressing the eject button causes a brief 'ping' noise, then the tray shoots out. The tray itself is also a bit disappointing as it is made of very light plastic and is not particularly well attached to the drive, making it feel very flimsy. You do, however, get three pads on the tray to prevent scratching of the CD.

The control panel on this drive



is as good as most others – a headphone socket, headphone volume control, eject button and psychedelic two-colour access light adorn its front. A minimalist approach is the order of the day.

Most importantly, the Sony loses out in terms of speed, and

its seek times are particularly unsavoury. The impression of slow seeking is not helped by the loud squeaking sound it makes while the laser is moving. I'm afraid this drive seriously failed to impress me.

POWER RATING: 60%



Panasonic CR563-B

(Cadet Lite Speed CL150) • Ideal Hardware •
Tel (0181) 390 1211 • £89 (+ £8 for controller)

The Panasonic is another very popular drive type. In fact, Creative Labs ship the CR563-B as their standard drive in the Creative Multimedia Upgrade pack, which can only add to the drive's pedigree. Installing the controller posed no problems whatsoever – like the Sony, it can fit into any slot other than PCI, and sports an audio output jack and a large connector for a secondary disk drive.

The unit is quite well built; it possesses a sturdy motorised tray which slides out gently from the casing and slides back in when the eject button is pressed a second time. This removes the possibility of damaging the tray by pushing it in too hard and provides a more robust

method of ejecting the disk than Sony's spring-loaded tray.

The front panel holds a headphone socket and headphone volume control, eject button and access light, just as the Sony does. But where the Panasonic really sets itself apart from the other drives is in its speed. This was the fastest double speed drive tested – a whole 28ms faster than the Bluepoint with the same transfer rate. I found this drive easy to work with and strong enough to last. Its low price is an added bonus.

POWER RATING: 86%

CR563-B

Controller type: Panasonic dedicated controller (or soundcard)
Sustained transfer rate: 298.88kb/s
Random seek time: 319ms



Bluepoint are relative newcomers to the CD-ROM market. The ICD uses an IDE controller to access CDs, hence the low price. The ICD was a breeze to install, all you need to do is open your PC, attach the free IDE connector which hangs down behind the

hard disk, plug in the power and install the software. Simple!

The ICD does have its drawbacks, though. The IDE interface can only handle two drives, one hard drive and one CD-ROM. This rules out the possibility of fitting another hard disk or CD, unless you buy another IDE con-

troller to add to your system.

The ICD's build quality is halfway between that of the Panasonic and Sony drives. Though the panel appears flimsy, behind it is a cleverly designed CD tray. The CD is held in the tray by three springy supports which prevent your CDs from being scratched during loading – a useful idea for prolonging the life of your software.

Again, the front panel features the same headphone socket, headphone volume and eject controls of the other drives.

This is the cheapest double speed drive reviewed and it is

Bluepoint ICD

Paragon Publishing • Tel (01202) 299900 • £79

also the simplest to fit. The Bluepoint manages to match the Panasonic for data transfer, but loses out slightly when seeking.

If you are short of slots on your motherboard then the ICD provides a superb opportunity to attach a CD drive without the need for a separate controller. It also represents very good value for money.

POWER RATING: 80%

ICD

Controller type: ATAPI through IDE controller
Sustained transfer rate: 298.88kb/s
Random seek time: 347.5ms

Toshiba XM3501B

Supplier: Ideal Hardware •
Tel 0181 390 1211 • £299

The Toshiba XM3501B is one of the new generation of quad-speed CD drives. It can transfer data at up to 600Kb per second, almost as fast as a hard disk (admittedly a slow hard disk). The use of a SCSI controller indicates that this drive is intended for serious use. The card is again an ISA design, meaning that it will fit all slots except PCI. The rear of the card

XM3501B

Controller type: Future Domain SCSI
 Sustained transfer rate: 599.2kb/s
 Random seek time: 170.4ms

houses a single external SCSI port which allows you to connect extra drives and other hardware, but no audio out connector for the CD drive, so a sound card or another amplification device is essential to get audio direct from the CD player, unless you intend to use the front mounted headphone socket.

The build quality is tough and business-like, but the drive has no tray, instead it uses a caddy which is a bit fiddly to use.

If you are thinking about buying this drive, then you will not be thinking about caddies or whether it's best to have a sound card,



what you want is speed. This drive reads consistently at a tiny fraction under 600Kb per second and it makes entertainment software such as *CyberWar* and *Woodruff & Schnibble* (reviewed this issue) run incredibly smooth-

ly, and seems to take reference software in its stride. If you have a sound device to connect the drive to, and don't mind the troublesome caddy system, then this drive will not disappoint you.

POWER RATING: 85%

NEC 4Xi

Supplier: Datrontech plc •
Tel (01252) 313155 •
£299 inc controller

1" deep. The rear of the card holds two phono sockets for sound output, but no connector for an external drive.

Installation was a simple process, my only niggle being that removing the tiny controller card was difficult as it got lost between two larger cards.

The NEC loses out to the Toshiba in terms of performance, though. While quad speed drives are still the ultimate in CD performance, they are bound to become the standard as they become more affordable, and when they do 16Kb/sec advantage will make a difference.

The build quality of this drive is excellent. It has a sturdy feel and features such as the dust cover illustrate this.

The NEC's mechanism is exceptionally quiet. When performing the random seek tests on drives like the Sony, I had to use another machine to write reviews and just wait for the squeaking to stop, but the NEC is inaudible when it is in front of you, let alone at a different desk!

In summary, the NEC is well constructed, quiet, comes with a very compact controller, but is let down by a slow mechanism.

POWER RATING: 72%

4Xi

Controller type : ATAPI through IDE controller
 Sustained transfer rate : 582.28kb
 Random seek time : 309.5ms

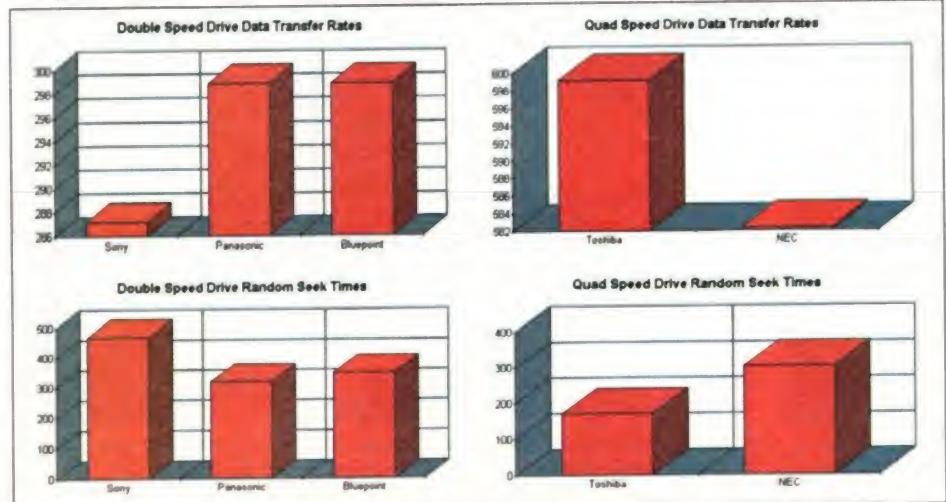


Hot on the heels of the Toshiba SM350B1 is the NEC CDR-271. By now, NEC will have stopped producing their 3Xi triple speed drive, and the CDR-271 looks more than capable of taking its place.

The NEC has two features which distinguish it from other

quad speed drives. It has a flat plastic cover which prevents dust from entering the drive. This is a worthwhile addition, as dust can contaminate a laser lens and cause read errors. Also, the NEC was shipped with the smallest IDE controller I have seen. Its circuit board is about 5" long and

Conclusions



Double speed drives

The double speed test finds the Panasonic drive the clear winner in terms of performance, with the Bluepoint ICD drive a close second. Don't be too put off by the Bluepoint's slightly lower performance though, it still represents a good buy if your machine is low on slot space.

Quad speed drives

The NEC drive and Toshiba are closely matched in price, but poles apart in performance and ease of use. The Toshiba's SCSI interface means that it must use one of your motherboard's slots, unless you are already using a SCSI controller, while the NEC uses a more widely accepted IDE controller and can be fitted to the same board as your hard disk. The NEC also scores over the Toshiba by using a motorised tray to load CDs instead of the Toshiba's outdated caddy system. But the real difference between the two is shown by the performance tests. The Toshiba can locate an area of the disk in just over half the time taken by the NEC, making it the ultimate in CD ROM performance.

Fitting a CD-ROM Drive

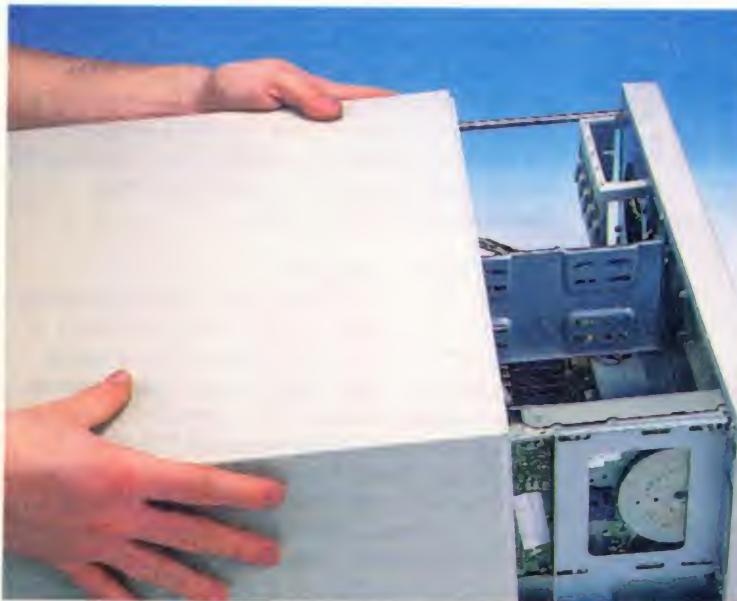
Installing a CD-ROM drive can be a tricky task, but luckily Jon's Power Guide is here to lend a hand. Just follow the ten easy steps, and you'll have those silver platters whirling round inside your machine in no time!



1 First of all it is important to unplug everything from your PC to remove the possibility of short-circuiting your machine.



2 Now locate the case screws which can normally be found either on the rear of the machine, or at either side. Unscrew them.



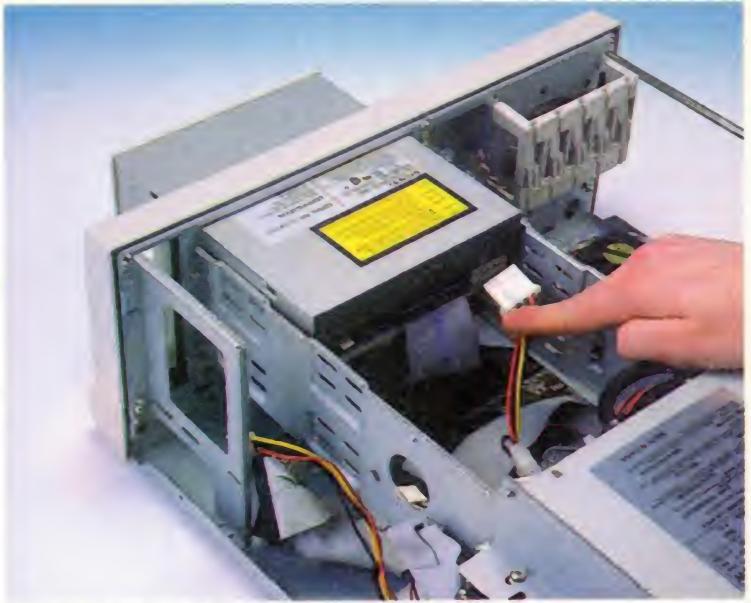
3 Now carefully remove the case making certain that you do not scratch or damage any cards or circuitry in the process.



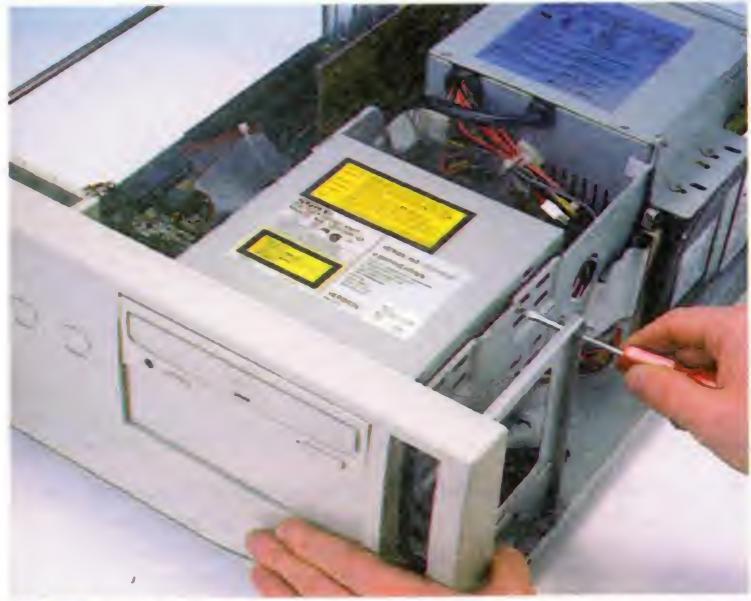
4 Before sticking your hands into a PC, you should always earth yourself by touching its chassis, which is designed to provide a good earth.



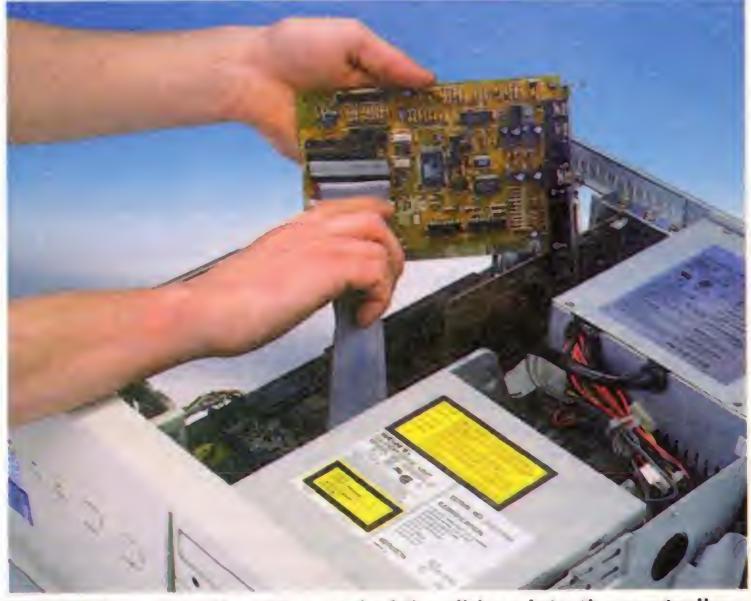
5 Put your hand inside the drive bay and push out to open the drive bay, then push the drive in and insert the ribbon cable with the red wire on the right.



6 Now push the power connector into its socket at the right of the ribbon connector. The plug is designed to fit only one way, it cannot be incorrectly inserted.



7 Slide the drive into the machine so it fits the front panel, then insert the retaining screws to the side of the drive. Note I had to remove the floppy drive in this case.



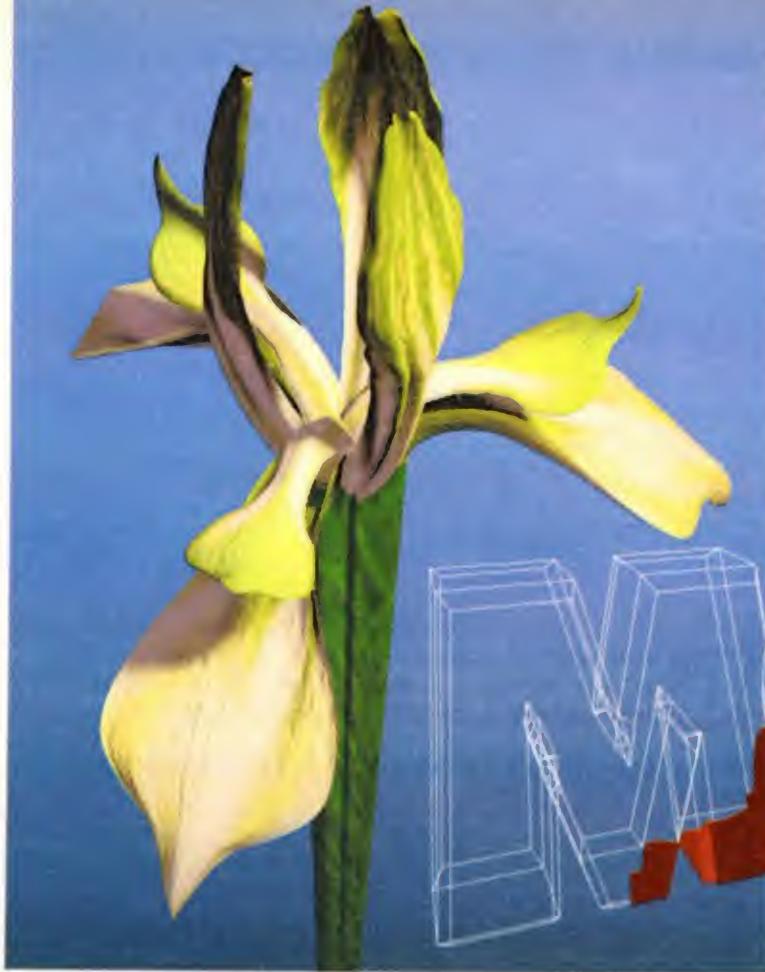
8 Now plug the other end of the ribbon into the controller. One of the metal pins on the controller is labelled with a '1', plug the ribbon in so the red wire meets pin 1.



9 Now plug the audio connector into the rear of the drive, then locate the same connector on your sound card/controller to allow CD audio output.



10 Now check the innards of your machine for screws, screwdrivers and other metal objects. Replace the floppy drive if necessary and re-fit the case.



High-tech television and film effects often require the illusion of a scene which is too expensive, or just plain impossible to film. Programs like *Seaquest DSV* and *Babylon 5* get round these problems by using a computer to build a model of the objects required. This model recreates the object's shapes, the materials they are made from, their position and their actions over time. The model is then rendered to calculate what those objects would look like.

Rendering takes into account the position of the objects, the camera, and any light sources which are nearby, and draws a single image of the scene. This process is long and laborious, even for today's powerful desktop machines, mainly because an animated model will require anything up to 25 rendered images for one second of moving images.

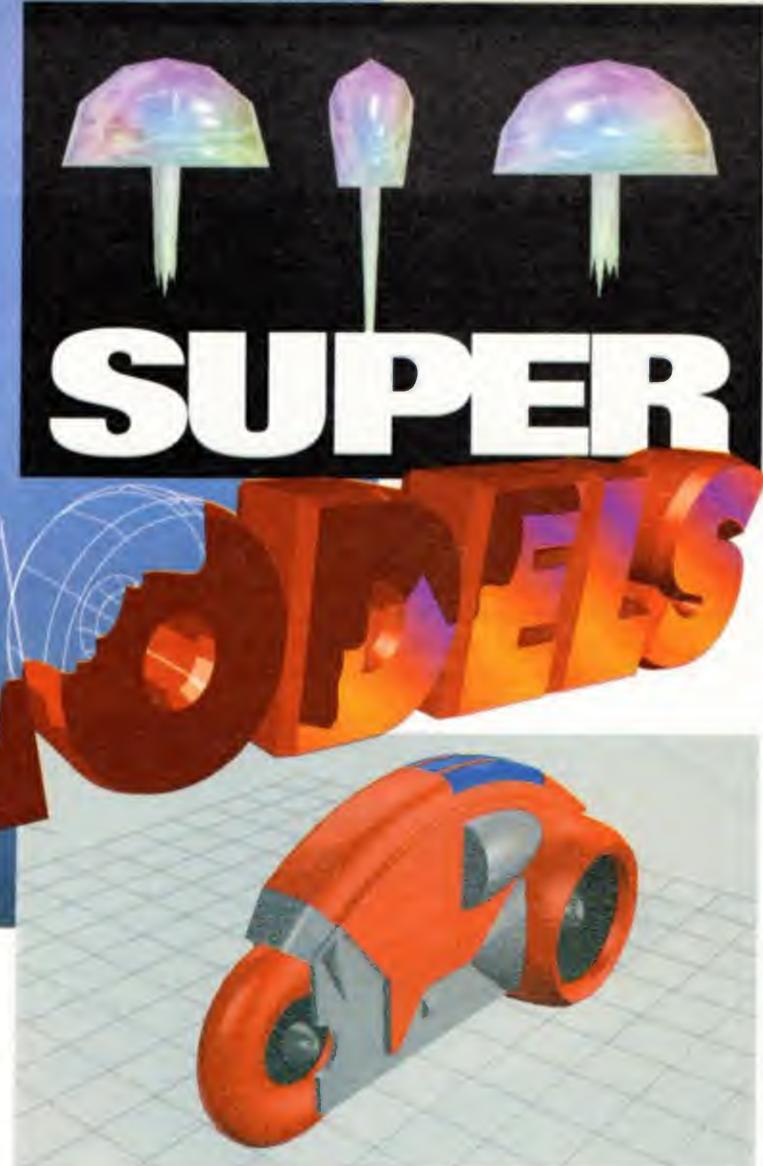
The process of creating illusory objects without using any real materials, and then generating views of them from any angle has many other applications. NASA use modellers to create animations explaining the path of space vehicles on a given mission, and architects use them to create mock-ups of buildings before the first brick

has been laid. The aim of this feature is to explain a little about modelling, compare the three commercially available modellers on the PC, and hopefully show some examples of what modellers do well and what they do badly.

Wire Frames

The most simple 3-D model possible is a wire-frame. This unimpressive model represents a cube as a simple collection of lines. Furthermore, the object is transparent, so lines in the background, which would normally be obscured by the foreground, can still be seen.

Whilst wire frames are not particularly eye-catching, they are useful when creating your 3-D environment. All modellers use them to represent objects in a simple, easily manipulated way, whilst they are being constructed or placed within a scene. This is done in one of two ways. The simplest method is to display the object from three views – top, side and front. This provides a way of accurately drawing 3-D objects on a 2-D screen, but it makes it difficult to determine what the object really looks like, as all three views are 2-D. Most modellers now also have a 3-D view where your objects can be rotated to view them from any



angle, as well as the three flat views (known as tri-D).

Making Models

Models of this type are constructed from lines and the corners (or vertices) which exist between them. These can be translated directly into a wireframe model, which is why they are used as a quick way of representing objects, often in real time.

Texture maps determine the pattern to apply to an object. They are ordinary image files which can be wrapped around an object to give it a pattern such as marble or wood.

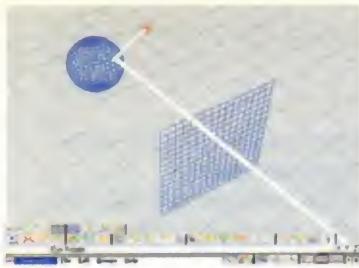
Bump maps are also normal image files, but they are interpreted differently to texture maps. The colour of a pixel in a bump map denotes the height of the bump which will appear on the object – a high colour value makes a high bump, a low value (such as background colour 0) will result in a flat area. Lastly, the attributes of an object describe the way it reflects light.

Most modellers allow attributes for specularity, transparency, refractive index, reflections, shading and colour.

The strangely named specularity determines how smooth the material is. Objects with a high specularity tend to look very shiny, as if they've been polished.

Transparency dictates how much light escapes through an object, so a texture mapped object with medium transparency can be used to create a stained glass window, for example.

The refractive index decides to what extent light is bent as it passes through a transparent object, making materials like glass and water possible. The reflection attribute denotes how much of the light that hits an object is reflected back, an obvious example of a highly reflective object is a mirror. The shading used by an object affects the way light illuminates the object, and the way that the angular appearance of the wire model is removed. There are four types of



shading. Flat shading draws the object with the angular joins between lines unsmoothed, Gouraud shading smoothes the object quickly, but not very accurately. There is also Phong shading (honestly) which smoothes the object seamlessly but slowly. Finally, metal shading gives the appearance of copper or chrome.

Lights, Camera, Action!

Once the objects have been designed as wire-frames, their textures created and assigned to their respective objects, then they need to be placed in a scene, along with a camera and lights, before they can be rendered.

Rendering takes the view from the current camera position, and decides what objects are visible, before drawing them pixel by pixel. Objects are made visible when they are struck by light, while unlit objects and those obscured by objects in the foreground do not need to be calculated. This process of deciding

whether, and to what extent, an area is lit can be tackled by one of two approaches – ray tracing or modelling.

Ray? Who's Ray?

Ray tracing packages work by simulating the path of an individual ray of light from each pixel in



the output image. This ray is cast out at 90° to the screen until it strikes an object. The ray is then deflected by the object and traced until it reaches another object or a light source, or hits no further objects and goes out of the scene's bounds.

This exploratory ray, fired through each pixel in the screen, picks up each object's material along the way, until it finally meets with a light source. The outcome of all this is a single result – the colour of the pixel through which the ray was originally fired. This colour is calculated from the colour of the light source, the colour and reflective properties of the various objects that were struck along the way,

and the strength of the light. For instance, if a ray hits the side of an orange, then a mirror, and finally a light source, the orange will be well lit as the mirror reflects light perfectly without weakening it. Replace the mirror with a slab of concrete and the orange will be less well lit.

A Faster Tracer

All this firing and rebounding of rays requires an enormous amount of processing, but it also creates stunningly realistic images. If you are not prepared to wait forever for your images to be completed, or you simply don't need that kind of precision,



then the simpler modeller approach is the answer.

Modellers do not trace each individual pixel. Instead they take a more general view of each object, with the position of light sources and other objects in the area taken into account. The key advantage of this local view is that it provides a less processor-intensive approach to lighting

objects, creating less accurate shading but in under half the time of a ray tracer.

The Reviews

There are three commercially available packages which can be used to perform your very own rendering. These are *Imagine 3.0*, *Caligari TrueSpace* and *3D Studio 4*, although not all of these will suit the home user. *Imagine* is a true ray tracer, while *TrueSpace* is a modeller for Windows, and *3DS4* a highly acclaimed modeller for DOS.

The packages will first be reviewed separately, then compared on several criteria. The first criterion is ease of use; how well do the documentation and the package itself teach you to create your own scenes, and how easily can scenes be created? The second criterion is the range of features supported; all modellers allow you to create and render scenes, but what degree of control do you have over the appearance of the objects and their actions within an animation? The third criterion is speed, although the difference between rendering on a ray tracer and a modeller should be kept in mind when comparing the two. The fourth criterion is special achievements; what does this package do best, and what can it do that no other package can?

Caligari TrueSpace

Supplier: Roderick Manhattan • (0171) 978 1727 • £595

Caligari's first attempts at modelling were predominantly written for the late, lamented, Commodore Amiga and were, in my opinion, not particularly well written. It was difficult enough to find an Amiga with enough RAM to run the original *Caligari* on, and when it did run, the output quality was often disappointing.

TrueSpace is Caligari's first foray into the PC market and, I have to say, the package is greatly improved over the older Amiga modeller. It splits the tasks of editing, rendering and animating 3-D shapes into seven groups: Navigate, Model, Render, Animate, Utilities, Edit and Libraries. Navigate allows objects to be moved, rotated and re-sized freely by selecting objects or vertices and moving them with the mouse. Model provides the tools to create more complex shapes, with a little imagination. Objects can be edited freehand, vertex by vertex, reformed using tools such as 'sweep' and 'bevel', and deformed in all sorts of eye-watering ways. Model also lets you create objects from text, using any Windows TrueType font of any size. Single

polygons (2-D shapes, such as squares) can also be created to act as walls or to be included as part of a larger object. There is also the option to create single spline polygons (a spline is a Smooth Poly-Line, basically a curved 3-D line).

The animation section can be stepped through, frame by frame, from a tape-recorder interface with play, rewind, fast forward and record buttons. Objects can be set to automatically rotate so that they always face another predetermined object, follow that object along its path, or move along their own path.

The Utilities group adds some useful tools to your armoury. A grid mode is available which makes your objects only appear at regular spacing intervals, an invaluable aid when creating symmetrical objects. Another handy tool is the normalise rotation button, which returns an object to its upright position after it has been rotated, taking some of the difficulty out of trying to rotate 3-D objects on a 2-D screen.

The final group of tools provided by



Caligari is the Libraries group. *TrueSpace*'s libraries allow you to define your own materials and paths, and store them in a quick-reference library to be recalled later, the idea being that you build up your libraries to the point where you rarely need to define a new path or material. The final library provided is the primitives library, which allows any of six basic 3-D shapes to be created at the click of a mouse button.

The simple fact that most of *TrueSpace*'s features can be listed here is testament to the product's shortcomings. Despite the fact that *TrueSpace* and *3DS4* are both modellers, *TrueSpace* is not in the same league although its output quality is good and it is ideal for the home of SoHo user.

3D Studio Release 4

Autodesk • (01483) 303332 • £2,643

The inescapable fact about this product is that it's very expensive. At two and a half grand, the chances of Santa coming down your chimney with this program are pretty slim, but this price tag is justified. This is one of the most professional products I have used in any field of computing and comes with an alarming array of manuals. The mammoth task of learning how to use this package is spread over five books of varying sizes, from the 100 page installation guide to the 1,000+ page reference manual.

An overview of 3DS4 splits the package into five areas; the 2-D shaper, 3-D lofter, 3-D Editor, Key-Framer, and the Materials Editor. Each of these areas has a specific job to do. The 2-D Shaper, for example, is used to create two-dimensional outlines or templates which can later be used in the 3-D Lofter, which adds depth to 2-D objects, and the 3-D editor – central to the whole application – is where much of the design work will go into creating and manipulating your own objects.

All five elements of the program run under Autodesk's very own graphical user interface (GUI) which does the same job as Windows, only faster. Autodesk claim to have improved this interface by making it 20 times faster than 3DS release 3, a claim which is supported by the superb real-time editing features which allow you to rotate, deform and move objects in a three-dimensional display with very little difficulty.

3DS4 has a number of other improvements over release 3. It supports networked rendering – a system whereby any number

of machines which are connected to the same network can be assigned elements of the same rendering job to complete. So if you wanted to render a 1,000-image animation with 10 machines, the network rendering system would allocate 100 frames to each machine.

3DS is also capable of monitoring the progress of each machine to see how well it copes with large rendering jobs. If one machine performs significantly better than others, it will be assigned more images to render, thereby making the best use of the available resources to create the animation.

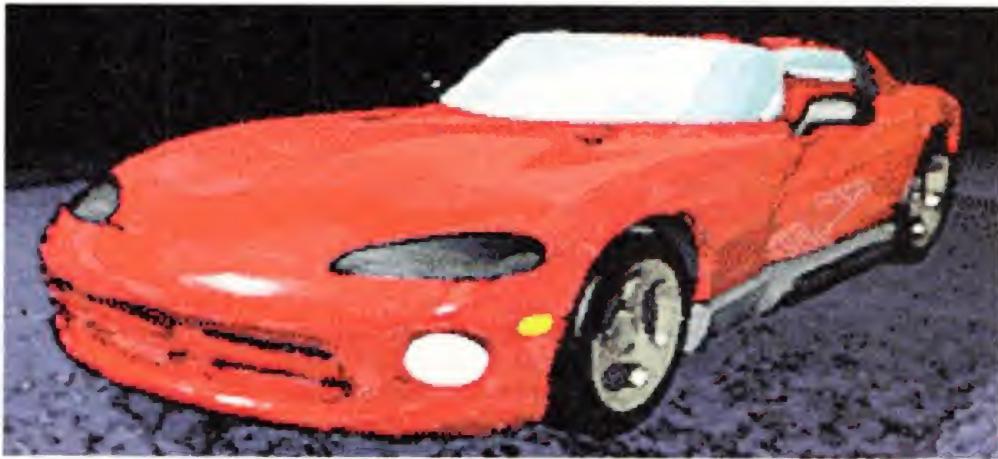
3DS4 is unbeatable for animation features. Most professional renderers allow objects to be grouped together and a skeleton defined around them which governs how they move. This principle can be used to create a leg which walks naturally. By just moving the foot, the joints of the leg co-ordinate to move the rest of it into position without bending the

knee backwards or performing any other unsightly or impossible feats.

3DS4 takes this principle to the extreme with an exclusive Autodesk system called Inverse Kinematics (IK). IK lets you define the type of connection between two objects, move them in six directions and define the Degree Of Freedom (DOF) for each direction.

The DOF limits a joint's movements in all six directions, and allows it to decelerate as it reaches its outer limits to give the impression of ligaments stretching.

3DS4's output quality is extremely good, better than a ray tracer in some areas. Many of the demonstration images on this month's cover CD were created as professional mock-ups of products and buildings, so the package's pedigree is already well established. 3DS4's price, however, means that it should not be bought for home use unless you are obscenely rich!



Imagine 3.0

Supplier: Impulse/Meridian • (0181) 543 3500 • £199

Impulse's fabled ray tracing package, like Caligari's previous efforts, first appeared on the Commodore Amiga. The approach taken by Impulse when writing for the Amiga or the PC seems to be much the same as Autodesk's; forget the operating system, forget any GUIs that may or may not be available, let's just start from scratch. The result, as in the case of 3DS, is extremely pleasing. Impulse's own GUI runs at a speed that would embarrass most machines running Windows – Microsoft take note.

The *Imagine* approach to modelling splits the process into seven stages, each with its own editing program. The project editor allows you to start work by giving your project a name and creating the necessary files to store scenes for that project.

Once your project has been created, you can begin to design objects. The Forms editor allows you to perform the same tasks as the 2-D shaper and 3-D Lofter in 3DS, and a helpful feature mirrors any changes you

make to create a perfectly symmetrical object. Once created, these objects can then be imported into the detail editor for fine tuning.

The user interface for *Imagine* 3 has been greatly improved over version 2. A new display mode has been included for the 3-D display window in the editor. This mode displays all of the objects in a scene in the same way as they are displayed in the tri-D windows. This means that when an object is selected with the mouse, it changes colour not only on the tri-D displays, but in the 3-D display too, making it much easier to see which object is selected, and pinpoint its position.

The Stage editor is where objects, lights and effects can all be combined to produce a still scene. This program includes tools for aligning cameras to take shots, and for defining light sources. A useful feature of the 3-D view is the ability to view what the camera sees. This can also be used to provide a

solid shaded representation of the scene as a preview before rendering.

The Cycle editor allows you to define skeletons around which objects can be grouped to make a single object united through the flexible skeleton. A simple example of such a skeleton would be an articulated lorry, with the cab being one object, the trailer another and a single-jointed skeleton joining the two.

Once the objects' skeletons and actions have been outlined, the Action editor allows you to storyboard the events in your animation over time. Even a simple image can take over a minute to render in *Imagine*, but the results are worth the wait.

EASE OF USE



This product would be impossible to learn if it was not for its immense documentation. Luckily this is very well written and explains each aspect of the program with a small tutorial. Despite its size and complexity, 3DS4 is easy to pick up, but some areas could be simpler.

CALIGARI TRUESPACE

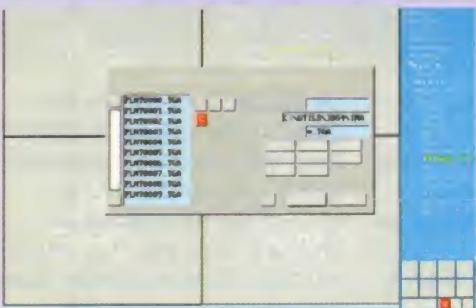


This is extremely easy to use, documentation hardly comes into it. The whole package is icon-driven with help constantly displayed on the program's toolbar. Simple animations are easily created with a few clicks of the mouse, and the package feels well organised.



This package is for real rendering buffs. The terminology used throughout can be confusing, but once you are familiar with the program, its operations become second nature. This package is the least user-friendly of those tested, but it is still very usable.

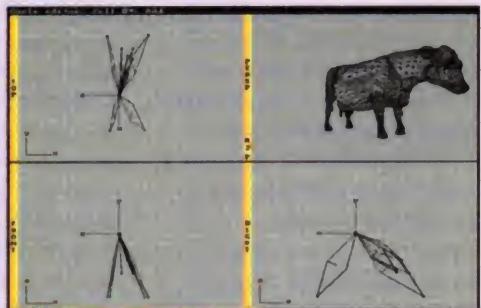
RANGE OF FEATURES



3DS4 is capable of modelling almost anything, its range of tools for manipulating objects is good, its animation features are unbeatable, and it handles almost every picture format imaginable in its material builder.

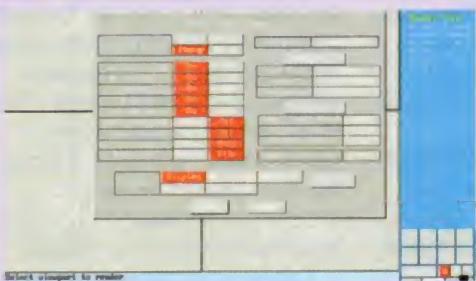


Sadly a little short on advanced features, and limited to only a few input file formats. One saving grace is that it can load 3DS objects, although unfortunately it cannot cope with the more complex ones, like the Chevrolet.

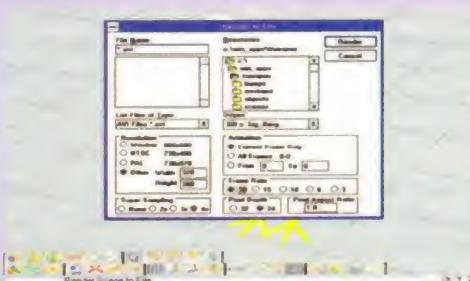


Imagine 3 provides a wide range of object creation tools, but falls down slightly at the animation phase due to its quirky two-stage animating software. This said, Imagine's features would suit a home user who wants high quality images and doesn't mind the wait.

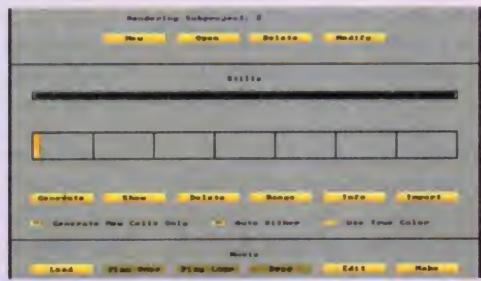
SPEED



The 3DS4 rendering engine is by far the highest quality modelling software available. It is not only better than Caligari, but it now generates higher quality images than Imagine. This difference in output quality does not translate into a slow rendering time, and with the network rendering option, the package can handle more work than any other modeller.



This package is not particularly fast. To render 300 frames of animation at 320x200 pixels in 16 million colours takes it around two and a half hours, but this is still phenomenally fast compared to the rendering times you could have expected from an Amiga modeller.



This ray tracer is slow in comparison to the two modellers, taking around one and a half minutes to create an image of the Imagine Cow object which comes free with the package. What you get for your patience is accuracy. The images produced are obscenely well shaded and realistic images are easy to create, but after 3DS4, nothing looks quite as good.

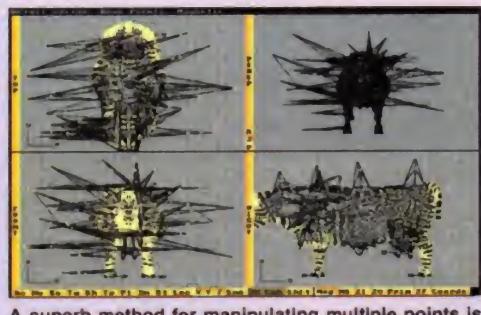
BEST FEATURES



3DS4's most attractive feature is its fast 3-D display of the scene. Cameras can be moved, zoomed in and out and rotated in real time. Although most of the objects' detail is lost, it does at least manage not to slow down as much as TrueSpace's display.



The deform by free standing lattice tool allows you to define an area which deforms objects when they come too close. This means that a distorting lattice can pass over an object, deforming as it passes, returning it to normal when it has passed.



A superb method for manipulating multiple points is the magnetism tool which allows any point of an object to be selected and moved freely. The surrounding points then follow the adjusted point as if it had been magnetised, creating a raised mound, or a sharp peak, depending on how the tool is configured.

Creative VideoBlaster Special Edition

Creative Labs • (01734) 344322 • £169

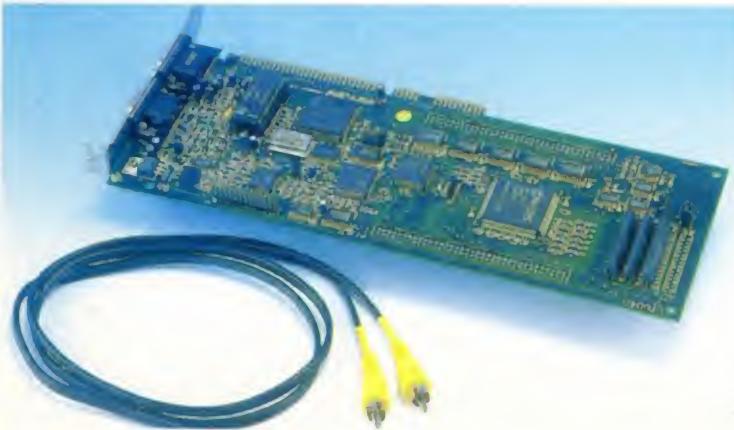
One of the most exciting new techniques to emerge from the recent revolution in multimedia is Full Motion Video (FMV). For some reason, the idea of playing your favourite videos in an animated display window is extremely attractive to many users.

The sad fact is that Windows video players are normally pretty awful, unless they use a hardware add-on such as an MPEG board. Nevertheless, if you are interested in making your own motion video files in this new and promising media, then Creative Labs (of Soundblaster fame, as if you didn't know) have the solution – the VideoBlaster.

This card fits to any of your machine's EISA slots, then connects to your display card via the VGA feature connector. The connector can be found on your video card and allows other cards in your machine access to information on the image currently being displayed.

The rear of the VideoBlaster houses two monitor ports, one input and one output. The input port connects to the output of your graphics card, then the monitor is connected to the VideoBlaster's output socket. This strange configuration allows the machine to overlay an image on the monitor signal from your VGA card, without the processor of your machine having to place the image there.

The software supplied splits into two groups: the VideoBlaster's own software, and Microsoft Video for Windows (VFW). Let's look at the VideoBlaster package first.



VBSE Setup lets you alter the way the incoming signal is processed by the card, and most of the action centres around two tools – colour settings and system settings. System settings lets you alter the display position and filtering of an incoming video signal, while colour settings allows you to fiddle with the colour, brightness and contrast.

The first task of any new VBSE owner is to connect a video source and try the card out. The system settings tool lets you select which of the three available video inputs to use, and the type of the incoming video signal. Video signals come in three main forms, PAL (the European standard), NTSC (the American standard) and SECAM (France).

Once the card has been set up, *VideoKit SE* can be used to grab still frames, digitise them and save to your hard drive. The one impressive feature of this otherwise unassuming package is the save function itself.

Lights, cameras, action!

Images can be saved in BMP, Targa, MMP, TIFF, PCX, GIF and JPEG picture formats, making them very easy to export to other applications.

The second suite of software included is Microsoft Video for Windows, which has so far been the backbone of motion video on the PC. The software adds video drivers for Cinepack, Microsoft Video, Intel Indeo and a host of other motion video replay drivers.

While none of these Windows drivers can attempt to achieve the same display quality as a video CD decoder, they can man-



age to display a small 320x200 pixel window and update it at a reasonable-ish rate whilst playing sound. In addition, the drivers allow you to decode VFW files as well as encode them.

The smallest of the VFW packages is *ScreenCapture*, Microsoft's confusing attempt at an image grabber. It runs minimised in the corner of the Windows desktop and records video images for a limited time, or until it is told to stop. I can't see the point in this, as the incoming signal is invisible to you when grabbing, so you have no idea what you are digitising.

Microsoft's *VidCap* is the major software package for the VideoBlaster. It allows still frames to be captured and saved, but only to Windows Device Independent Bitmap (DIB) format. The colour controls can be altered in much the same way as in *VBSE Setup* and a video editor can be invoked from inside the package, but most importantly, *VidCap* lets you capture and encode your own VFW files.

Hence... like a virgin

Capturing video could not be easier with this software because the number of frames to grab per second, the time duration, and which video encoder to use, can all be set from self-explanatory menus. The image can be recorded in 16 million or 256 colours, but if you want 256, you must sample an image from the video before grabbing so that *VidCap* knows which 256 colours will provide the best image.

Making an acceptable video is not as straightforward as setting

up *VidCap*. On a 486-66 DX2, grabbing 256 colours, at 320x200 (the card's maximum resolution) and five frames per second, caused frames to be lost or 'dropped' at an alarming rate, but as I said, Windows motion videos are not exactly perfect, yet.

However, with a bit of practice, it is possible to grab a video of about the same quality as most multimedia applications, a result which pleasantly surprised me.

Audio can also be recorded and stored in the same folder as the video data. Later you can edit it all in *VidEdit*, splicing the visual and audio tracks together and discarding any wasted clips. One thing I would suggest is that if you're serious about the editing facilities, check out *Adobe Premier* as an attractive and well equipped substitute to *VidEdit*.

VideoBlaster provides many of the features of more expensive cards at an affordable price and it is very easy to install, although if you are using the ROM shadowing options in your BIOS setup, they must be switched off before the card will work.

My only real grumble about this card is the software. Good still frame grabber, motion capture and editing is provided, but, as so often happens with bundled software, the packages are patchy. Why not have one program that grabs frames, videos, audio and lets you change the card's settings? This is a perfectly usable card, but if you do buy one, don't expect to become Quentin Tarantino overnight.

Jon Pyle

POWER RATING 85%

Gamerunner

Quarterdeck Office Systems • (01245) 495841 • £49.95

Gamerunner is a compilation of QEMM version 7 (Quarterdeck's answer to Microsoft's EMM386), AXIS (kind of a software Action Replay), and the Hyperdisk Speed Kit (a collection of small utilities intended to improve the performance of your PC).

When your PC complains about a lack of memory, nine times out of ten it will be complaining about conventional memory, the first 640Kb of your machine which DOS needs to run its programs. By placing drivers and utilities in high memory, you use up less conventional memory and your life is made easier. The normal method for achieving this is to use Microsoft's MemMaker to optimise your machine's performance, but this has a drawback: MemMaker is a woeful piece of software.

QEMM seems to handle the job very well, and it comes complete with an equivalent to MemMaker called Optimise which finds the best way to organise your programs without affecting their performance. Optimise's major advantage over MemMaker is that it's automatic.

Hardly any intervention is required from the user to achieve a configuration which leaves 618Kb free.

QEMM also includes utilities for freeing even more memory and improving the speed of your machine, all of which are installed from the simple set-up program. In short, QEMM does a difficult job very well, but what about the rest of the compilation?

HyperDisk Speed Kit is a collection of small utilities which attempt to configure your computer to run faster. Firstly there is *Hyperdisk* itself, a disk caching utility which fails to distinguish itself from any other disk caching program.

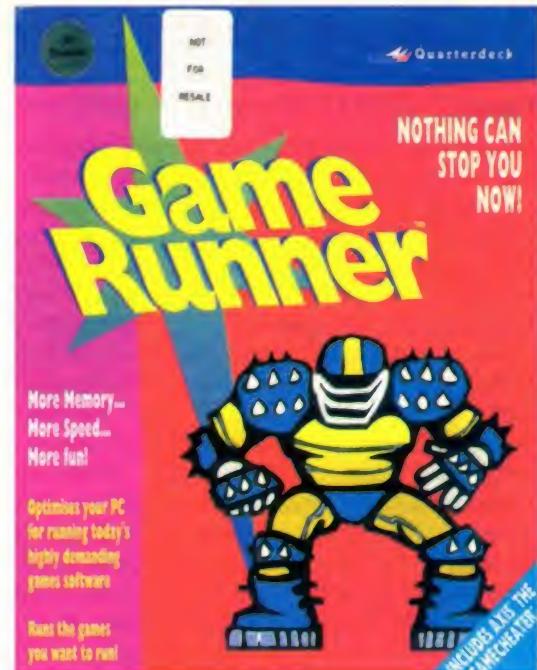
HyperRAM is a utility that attempts to improve the performance of your computer's memory. Most recent PCs allow you to optimise memory speed through the BIOS set-up screen (the utility which appears if you press DEL whilst resetting), but fiddling with the advanced BIOS settings is not recommended unless you're sure of what the options mean. *HyperRAM* provides an altogether safer method by configuring the RAM for you.

HyperKEY is a keyboard manager which generally speeds up keyboard operations. *Hyperscreen* is a small program which adds a screen blanker to your machine. *IDE Boost* is another utility for increasing the performance of your hard disk, making use of a feature on newer IDE drives which the documentation claims is not often used.

Yet again, many BIOS set-up screens will allow you to enable this feature (called HDD Block Mode).

In all, the *Hyperdisk* range of programs was of little use to me as I do use the BIOS screen, but those who feel less comfortable tinkering with their machines will no doubt form a different opinion.

Lastly, the compilation includes AXIS, which is a sort of a software Action Replay. AXIS is a small TSR program installed before you start playing a game, it then waits for you to press a



predefined key combination and immediately restores your energy/lives/ammo to maximum.

The real problem of this program is that you cannot search for new cheats, you can only use the ones provided by the author. AXIS comes complete with 49 cheat files including *Gunship 2000*, *X-Wing*, *Stellar 7* and *Sim City*. What this program needs to be really useful is a trainer screen like the Action Replay to let you hunt down your own cheats.

Jon Pyle

POWER RATING 62%

Cleansweep for Windows

Quarterdeck Office Systems • (01245) 495841 • £49.95

Believe it or not, your hard disk is a haven for unnecessary files, space wasting duplicates, Windows temporary files and freeloading unused system components. But how can you tell a worthwhile, hard-working file from one which is useless? Well, you could give Quarterdeck's *Cleansweep* a try.

CleanSweep is a utility which searches the relevant areas of your hard disk for any files which may not be needed. The utility is split into four sections: Uninstall Programs, Delete Unused Components, Delete Unused Files and Delete Duplicate Files.

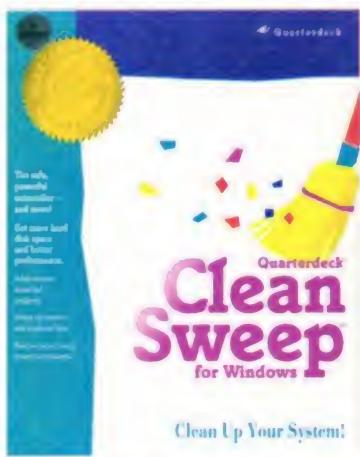
Uninstall Programs presents you with a menu containing the groups from your Windows desktop. By selecting a program icon from this menu you can uninstall not only a program, but all of the files which relate to it. For example, if you ask *CleanSweep* to delete *Windows Write*, it can delete not only the program's icon and executable files, but also all of the *Write* documents (*.wri) on the hard disk.

Delete Unused Components presents you with a different interface. Each category of Windows file is displayed as a small button and pressing it

reveals a list of files of that type which can then be selected and deleted.

Delete Unused Files allows you to search for archives, temporary files, back-up files and the like, while Delete Duplicate Files searches the hard disk for files of the same name and size and allows you to select which ones to delete.

Full back-up options are provided, so if you delete something important, it can easily be replaced, and a useful 'trial run' option allows you to find out how much space you could save without actually deleting anything.



Clean Up Your System!

This software requires a little care and attention to ensure that nothing vital is deleted, and I have my doubts about the wisdom of deleting Windows system components, but it managed to save four megabytes of space on an 80Mb drive with no ill effects, so the benefits are obvious. Give it a try.

Jon Pyle

POWER RATING 84%

Lasat 288 Unique Modem

Lasat • (0181) 741 8011 • £250 inc VAT

Tired of twiddling your thumbs waiting for downloads? The Lasat Unique 288 may be just what you need. The Unique is, for the moment, an aptly named modem. Measuring no more than 3.5" square, and about 3/4" deep, the Unique can transmit and receive data at 28,800 baud, and incorporates the latest V42 error correction and V42bis/MNP5 compression methods. What all this means is that it brings the transfer rates up to 115,200 bits per second, and this should take quite a chunk out of your phone bill.

The attractive purple casing



This modem might not be as fast as the Lasat 288, but it has some very nifty features which set it apart from the rest. The Road Runner Rocket is designed to be as portable as possible without compromising its capabilities – an intention reflected by its smooth rounded edges which make it easier to carry in your pocket (it even

houses a modest four lights, unlike the now familiar US Robotics modems which closely resemble the Blackpool Illuminations when downloading. The 288 also boasts energy saving features such as low power consumption and an automatic standby mode which switches the modem off when it is inactive (very handy indeed).

Datafax software is included with the package, allowing you to send faxes at twice the normal speed (assuming the receiving fax can handle it). My only reservation about this modem is the extreme heat output from one corner of the unit. For a while I

thought I was going to have to explain a broken modem to an angry PR company, but after testing it on Compuserve for more hours than my boss would like, it would seem to be the unit's normal operating temperature.

Lasat's plans in the near future include the release of a terminal adapter for super-fast ISDN lines. The unit, called the Unique 640i, has yet to be approved by BART for use in the UK, but this should be no more than a formality. The euphoric press information we received boasts transfer rates so high that 480,000 characters can be sent in the time it takes a normal



modem to connect! Watch this space for further developments. The Unique 288 is one of the best mini modems on the market and for all the features offered, it is at a very competitive price.

Recommended!
Jon Pyle

POWER RATING 85%

Andest Road Runner Rocket

Andest Ltd • (01494) 429309 • £115 exc VAT and P&P

comes with a small pouch to keep it in!) and its petite size (only fractionally bigger than the smallest ones on the market).

The Road Runner can transmit at up to 144,000 bits per second and send and receive faxes at 9600 bps. It also allows V42bis or MNP5 compression, an error correction rate equivalent to the Lasat.

Andest quote impressive transfer rates of up to 57,600 bps when using data compression, but this modem has more tricks up its sleeve, such as running from a single 9-volt battery, meaning you do not need to carry a power adapter to use the

modem when on the move. This modem also has the same standby feature present in the Unique 288, which is especially important when running from battery power.

The Road Runner also comes with WinDOS Lite, a communications package and fax manager for both DOS and Windows. The fax software provided is reasonable (although our early version had not been translated from German yet), but the communications software, Trans-Send, seems more than a little limited. It supports terminal emulation perfectly well, but is not flexible enough

for long term use and this is the only real problem for the Road Runner. That said, it is an easy task to find and download a more comprehensive communications package if you have access to the Internet or Compuserve.

Luckily, Andest have included 80 hours of Internet access, \$15 of Compuserve access, a guide to getting started on the Net and a special offer on Internet training courses – all free with the modem. If that doesn't persuade you, I don't know what will.

Jon Pyle

POWER RATING 82%

Opus P60

Opus • (01293) 821444 • £1,299



ommended by Dino Boni in issue 12 and seemed the perfect machine for me. 8Mb of RAM (ideal for all games, and

it means no messing about with memory allocation), 450Mb hard drive, a Sony CD-ROM drive (everyone should have one), a SoundBlaster compatible sound card, and a set of thumping great Quickshot Soundforce 1 speakers. What more do you need?

Living with the P60 has been one long breeze and it performs

impeccably, no matter what I throw at it. The difference between a DX-66MHz and a Pentium is immediately obvious on games like *US Navy Fighters*, *System Shock* and *NASCAR*; more on-screen detail and greater speed being the obvious advantages.

The hard drive, too, is large enough to hold many games and applications, and even the huge film files grabbed through the VideoBlaster (see page 90) were no problem at all. Certainly there is more than enough for use as a home office tool, or simply as a leisure machine.

The dual speed CD drive, although a Sony base model (the tray ejects violently, but needs to be pushed back in) works perfectly and runs at a fair old whack, although it did have some driver problems right at the start which seem to have cured themselves.

The best news about the Opus P60, however, is the price. Since the review in January, this model has fallen to just £1,299 and that's less than most DX-66s! The reason for this is the imminent introduction of the P75, but if you want affordable Pentium power now, the Opus P60 is highly recommended. Now if I can just keep it for a bit longer...

Recommended!
Damian Butt

POWER RATING 89%

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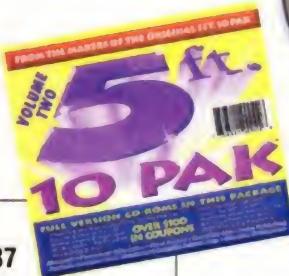
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OKI OL410ex

OKI Systems (UK) Ltd • (01753) 819899 • £580

My first impressions of this printer were that it was a tidy, compact and well presented piece of hardware that comes with all the relevant cables, an installed image drum cartridge and a useful handbook explaining every operation with easy to follow step-by-step guides.

The OKI is capable of resolutions from 300-600x600dpi, and taking the figures for the toner and image drum lifespan you can easily expect a very reasonable 3,000 pages before anything needs replacing. The good thing about the Oki is that it can

also print eight pages a minute instead of the normal four.

The paper tray is situated at the front/bottom and to access it all you have to do is press a convex push tab. The tray can completely come away from the printer, which makes paper insertion a little easier when you are filling an empty tray, although there isn't a great deal of capacity inside the unit.

The paper guides adjust to various paper sizes so that document positioning is accurate and in theory should prevent paper jams. Although during the test I encountered numerous

jams which became a real pain to sort out. As well as allowing you to print a various number of paper sizes, the guides also permit printing on a variety of envelope sizes, labels and transparent film, which is perfect for home office users and small businesses.

Another interesting feature with the OKI is the Optional Font Card Installation which allows you to install only the fonts you need via a flip open slot on the side. Also, the toners for this printer are only £20, as opposed to £80 with many others.



On the whole the OKI OL410ex is a reasonably priced monochrome LED printer, but you might feel that competitively priced colour models such as the new Epson Stylus Colour (around £650) is a much better deal. A good all-rounder, though.

Kim Thomas

POWER RATING 69%

3DPC

Disk Express • (0181) 348 4414 • £29.95

Before you get any wild ideas about this being some sort of three-dimensional rendering application, it is in fact a screen saver, and a rather good one in fact. *3DPC* allows you to allocate one or all eight of the highly rendered and animated pictures and play in front of Windows after a designated time.

The program is simply installed, you just follow the prompts and it does the rest. The only problem is that for a mere screen saver, *3DPC* does take up a hefty 6.5Mb(!) of hard disk. But just look at what it can do.

Sceptics may say that it steals speed and memory from Windows excessively, but for the duration of this test, that did not prove to be the case, and *3DPC* performed admirably from start to finish.

Each of the animations are eccentric objects such as flying pigs (well we've had toasters, so why not?), bouncing balls, and one of those infuriating machines that are physically impossible, but look good on the walls of students' lodgings. All look fantastic when up and running, especially the techno-slug.

When you load the program

you are asked for the time delay before the pictures pop up, and also whether or not to input a code, because you see *3DPC* also contains a password protection routine that effectively disables the desktop.

But what does *3DPC* have over other screen savers, some of which are themed, such as *Star Trek* or *Terminator*? Well not a lot, except that you can bet that no-one else will have perfect 3-D images dancing all over their desktop when the lights go out.

Life with *3DPC* was not radically different, but I must confess



it was highly satisfying to install it and then watch everyone in PC POWER stop and go "wow!" as the rendered images strutted their stuff. Overall I would say that this is a fun and very well produced piece of idleware that justifies the high asking price by being innovative and, with the password protection, very useful.

Damian Butt

POWER RATING 84%

Sound Force 1

Quickshot • (0181) 365 1993 • £39.99

Tired of hearing your tremendous sound card defeated by tin-can speakers? Then move up a notch with Quickshot's latest addition to their range of multimedia PC speakers. The Sound Force 1 speaker system scores over Quickshot's previous lamentable efforts in many respects.

Controls have been added for bass, treble and balance, which were all missing from their previous models. The new system also uses two speakers, both a tweeter and a mid-range. The tweeter handles the higher frequency sounds such as percus-

sion instruments, whilst the mid-range produces the lower pitched sounds like voices and musical notes.

An amplifier is built into the left speaker which requires a 12-volt power supply (included with the speakers). The output from this amplifier is fine, and it represents a major step forward from Quickshot.

If your desk space is limited and you do not have a hi-fi to hand, then these speakers are a good solution to the problem. They are ideal for use on a cluttered computer desk as they are shielded to prevent them from



damaging magnetic media.

The Sound Force One system is well designed for use with a home or office multimedia set-up, and they provide a wide range of features for a reasonable price. Compared to other

speaker systems I could mention, these provide a far superior sound and are a valuable addition to your PC.

Jon Pyle

POWER RATING 81%

Chameleon Multi-Function Communications Adaptor

Rombo • (01506) 414631 • £299

The Rombo Chameleon is a single card which fits internally to your PC; providing a 14,400 baud fax/modem and a built-in sound card with 16-bit sound recording and replay. This

may sound like an odd marriage to you, but it allows the Chameleon to perform as a voice-phone, fax machine, modem and answering machine (remember the card can record

sounds, as well as play them).

The built-in fax capability means that faxes can be received and read without them ever having to be printed onto paper. The Chameleons's low retail price makes it ideal for the home office user and you get plenty of features for your money, including a sound system for games, multimedia and Windows.

The Chameleon's modem capabilities also make it possible to connect to the Internet and down/upload data at up to 14,400 baud.



3D Studio 4

Autodesk • (01483) 303322 • £2,643

3D Studio 4 (3DS4) is a widely acclaimed package that allows you to design your own three-dimensional objects, position them in a scene, and animate them. These animated shorts can then be rendered to produce views of the



objects from any angle.

The aim of such modellers is to create realistic images using speed efficient methods – as opposed to a ray tracer which plots the path of light around a scene. Modellers like 3DS use simpler mathematics to produce similar results with less processing.

The result is an extremely fast, flexible package which renders faster than any other modeller I have encountered. To add to its list of features, 3DS4 boasts an intuitive point-and-click interface which was written by Autodesk specifically for this package.

Despite the fact that it runs from DOS, 3DS4 not only has a smooth mouse-driven front end, but also supports virtual memory, so larger scenes can be rendered on machines which could not normally cope.

A major new feature in 3DS4 is the ability to perform network rendering. This allows a number of machines on a network to be assigned jobs by a 'master' machine. This assigns part of a particular rendering job to each of the networked slave machines and automatically sends more work to the faster slave processors. 3DS4 has also been

Rombo's 'one card fits all' Chameleon is a highly important piece of kit for all serious PC owners. At last you can run a home office without the need to buy tons of plug in peripherals. Cheap, more compact and complete with all tools already in place. What more could you ask?

Thinking about a home office? Get the Chameleon and you'll never miss Richard & Judy again!

Recommended!
Jon Pyle

POWER RATING 88%

Virtual Pilot Pro/Pro Pedals

CH Products • Available from most retailers • £104.95/£109.95

Let's get one thing straight. The only people who are ever going to experience the Pro Pedals and Pilot Pro will be, a) Lottery winners, b) members of the royal family, or c) real pilots and racing drivers, because, not to put too fine a point on it, they're bloody expensive.

But, price aside, these two controllers are quite the highest quality and most authentic driving/flying aids I've ever encountered. Both are made from durable plastics (although the Thrustmaster steering wheel has a metal casing) and will no doubt

take quite a bashing, but the best aspect of the Pilot Pro is that you can clamp it to the tabletop. That means no more spitting into sucker cups in a vain effort to weld them to the desk, and a very solid base to play games on. Hooray!

The Pilot Pro is also resplendent with three thumb buttons on each side of the yolk, plus two multi-task fire buttons in the centre – in all, 14 different combinations!

The Pedals are also heavy enough to prevent sliding during heavy braking or acceleration, and they have the added bonus

of being able to move back and forward as well as up and down. This is to co-ordinate with the rudder controls on a real aircraft; making both these controllers perfect for serious flight enthusiasts. It really is like having a



Cessna in your own front room.

I was suitably impressed by the response from both controllers on the two test games, *Flight Unlimited* and *NASCAR Racing*. Corners can be taken faster and there's no more searching for keys during flight.

If you've got a couple of hundred quid floating about the place then I'd definitely recommend both of these, but you have to be really serious about your gaming.

Recommended!
Damian Butt

POWER RATING 88%

Left-Overs

XPLORA 1

Peter Gabriel's Secret World

Mirage • (01260) 299909 • £49.99



Whoops, no room in the reviews section for this game, but we thought you'd like to know what this Peter Gabriel fellow thinks he's doing on PC CD-ROM.

If you're a big Peter Gabriel fan, *XPLORA 1* will be embarrassing for you. Then again, if you're a big Peter Gabriel fan, you've got enough problems already (ouch! – ed). Throughout this 'interactive' Windows nightmare, Pete and his pretentious chums whitter on about how the use of multimedia will eventually provide a forum for all self-indulgent rock/pop/bullshit artists.

Now he might actually be correct in that assumption, after all the idea's a sound one (ho-ho), providing you have enough material to make it worthwhile. Unlike Mr Gabriel, who seems to think that packing a CD with a load of shocking newsreel footage advertising his Witness programme and Amnesty International constitutes value for money. Worse still, you're bombarded with an in-depth look at the cultural effect of music in a host of countries throughout Africa and Asia.

All this is a world away from the mixing tables, album sleeves and song lyrics that adorn the back of the box. Don't get me wrong, that side of it is covered, but takes up very little of the entire program. For somebody expecting an entertaining tour through the music and videos of Peter Gabriel, with a bit of DIY mixing, it comes as a serious disappointment.

To top it all, access to certain parts of the system can only be gained by finding the relevant backstage passes. At best this is the flimsiest excuse for a game ever, at worst, it's infuriating because it blatantly inhibits your natural thirst for knowledge through the game.

Multimedia encyclopaedias should be flowing and easy to use – *XPLORA 1* is not. More to the point, it's dead boring. If this is Peter Gabriel's Secret World, I'd prefer that he kept it secret. Stick to the wacky videos, Pete.

Keith Pullin (with digs by Steve Hill)

58%

386 DX PCs

	Processor speed (MHz)	Floppy/hard disk capacity (MB)	Hard disk cache	Cache RAM	RAM (MHz/max)	Monitor	Ports (parallel, serial, serial)	Case types (Desktop, Mini Tower, Tower)	Free slots	Free drive bay (3.5")	Free drive bay (5.25")	Price	Supplier
Akhter LC	40	1.44, 40		128k	2 (16)	14" VGA	1P, 2S	D	4	0	1	£950	Akhter
Cl Leo	40	1.44, 80			4 (32)	14" SVGA	1P, 2S	D	2	1	2	£1,050	Enterprise
Escom 386DX	40	1.44, 170		128k	4 (32)	14" SVGA	1P, 2S	D	4	1	2	£680	Escom
Oasis DX	40	1.44, 107		64k	2 (16)	14" SVGA	1P, 2S	SDMT	4	0/1	0/3	£799	Oasis Computers
Perfecta 40	40	1.44, 105		64k	4 (32)	14" SVGA	1P, 2S	D M	2/5	0	1/2	£889	Watford Electrics
Vale Popular	40	1.44, 120		128k	4 (16)	14" SVGA	1P, 1S	D	5	0	1	£769	Evesham Micros

486 SX PCs

	Processor speed (MHz)	Floppy/hard disk capacity (MB)	Hard disk cache	Cache RAM	RAM (MHz/max)	Monitor	Ports (parallel, serial, serial)	Case types (Desktop, Mini Tower, Tower)	Free slots	Free drive bay (3.5")	Free drive bay (5.25")	Price	Supplier
AkhterLC-25L	25	1.44, 105		128k	4 (32)	14" SVGA	1P, 2S	D M T	4	0/1	1/3	£1,372	Akhter Cmputrs
Cl Leo	25	1.44, 80			4 (32)	14" SVGA	1P, 2S	D	2	1	2	£1,095	Enterprise
Cl Leo	25	1.44, 80			4 (32)	14" SVGA	1P, 2S	D	2	1	2	£1,190	Enterprise
Compaq Prolinea	25	1.44, 120			4 (64)	14" SVGA	1P, 2S	S	4	1	0	£1,200	Compaq
Compusys VESA	25	1.44, 85		256k	4 (64)	14" SVGA	1P, 2S	D	4	0	1	£1,249	Compusys
Dan for Windows	25	1.44, 210	2.5M	256k	8 (64)	14" XGA	1P, 2S	D M T	2/5	0/1	1/3	£1,372	Dan Technology
Dell System 425	25	1.44, 80			4 (64)	14" SVGA	1P, 2S	SD	3/6	0	2/3	£1,005	Dell Cmpt Corp
Dell System 433	33	1.44, 80			4 (64)	14" SVGA	1P, 2S	SD	3/6	0	2/3	£1,089	Dell Cmpt Corp
Elone PC-425X	25	1.44, 85		64k	4 (32)	14" SVGA	1P, 2S	SD	3/5	0/1	1/2	£1,095	Elone PLC
Elne PC-425XEL	25	1.44, 85		64k	4 (32)	14" SVGA	1P, 2S	SD	3/5	0/1	1/2	£935	Elone PLC
ElxPC425XLAN	25				2 (32)	14" SVGA	1P, 2S	S	0	1	0	£885	Elonex PLC
ElxPC433LAN	33				2 (32)	14" SVGA	1P, 2S	S	0	1	0	£1,025	Elonex PLC
Escom 486SX	25	1.44, 170			4 (32)	14" SVGA	1P, 2S	D	4	1	2	£1,003	Escom
Haval PC433S	33	1.44, 129			4 (32)	14" SVGA	1P, 2S	SD	4/6	0/1	3	£1,100	Paragon Technol
Haval PC433SL	33	1.44, 170		256k	4 (32)	14" SVGA	1P, 2S	D M T	6	0	2/6	£1,115	Paragon Technol
ICL D33/25	25	1.44, 85			4 (32)	14" SVGA	1P, 2S	D	4	1	1	£1,295	Technology PLC
ICL D43/32	33	1.44, 120			8 (32)	14" SVGA	1P, 2S	D	4	1	1	£2,095	Technology PLC
Kamco CAD	33	1.44, 245	VL	256k	8 (32)	17" FST XGA	1P, 2S	D	6	0	1	£1,215	Kamco
Kamco Classic	25	1.44, 170		64k	4 (32)	14" SVGA	1P, 2S	D	3	0	1	£1,095	Kamco
KmcClassicWin	25	1.44, 170	VL	256k	4 (32)	15" FST XGA	1P, 2S	D	6	0	1	£1,495	Kamco
KamkoKC433LB	25	1.44, 170	VL	256k	4 (32)	14" XGA	1P, 2S	D	6	0	1	£1,095	Kamco
Kamco Ultra	25	1.44, 170	VL	256k	8 (32)	15" FST XGA	1P, 2S	D	6	0	1	£1,345	Kamco
Kamco Ultra Win	25	1.44, 170	VL	256k	8 (32)	15" FST XGA	1P, 2S	D	6	0	1	£1,675	Kamco
MT 8080-33L	33	1.44, 0		64k	4 (64)	14" SVGA	1P, 2S	D	5	3	3	£1,399	Memorex Telex
Oasis SX	25	1.44, 107		64k	2 (32)	14" SVGA	1P, 2S	SD M T	5	0/1	0/3	£899	Oasis Computers
Olivetti PCS 44	25	1.44, 85			4 (20)	14" VGA	1P, 1S	S	2	0	1	£1,049	Olivetti
Patriot VL	33	1.44, 125	1Mb	256k	4 (32)	14" SVGA	1P, 2S	D T	4	0	3/4	£1,389	Austin Computers
Perfecta 25	25	1.44, 105		64k	4 (32)	14" SVGA	1P, 2S	D M	2/5	0	1/2	£895	Watford Electrics
PS 486SX	25	1.44, 85		128k	4 (32)	14" SVGA	1P, 2S	SD M T	3/6	1/2	2/3	£799	Power Systems
Reeves SX25	25	1.44, 120			4 (32)	14" SVGA	1P, 2S	D M	4	0	1	£849	Reeves
Reeves SX33	33	1.44, 120			4 (32)	14" SVGA	1P, 2S	D M	4	0	1	£949	Reeves
SC 486SX25	25	1.44, 105		64k	4 (32)	14" SVGA	1P, 2S	S	2	0	0	£899	SIR PLC
SCB SX	25	1.44, 40		128k	4 (64)	14" SVGA	1P, 2S	M	4	1	2	£749	SCB Systems
Trigem 486MM	25	1.44, 42			4 (64)	14" SVGA	1P, 2S	D	4	2	1	£1,070	Trigem
TulipVisLineDC	25	1.44, 60			4 (16)	14" SVGA	1P, 2S	D	4	2	1	£1,400	Tulip
TulipVisLineDC	25	1.44, 120			4 (64)	14" SVGA	1P, 2S	D	4	2	1	£2,100	Tulip
Vale Premier	25	1.44, 120	512k	256k	4 (32)	15" SVGA	1P, 2S	D M T	5	0/1	1/3	£1,349	Evesham Micros
Vale Premier Plus	25	1.44, 120	2Mb	256k	8 (32)	15" SVGA	1P, 2S	D M T	5	0/1	1/3	£1,649	Evesham Micros
Vale Prestige	25	1.44, 85		128k	4 (32)	14" SVGA	1P, 2S	D M T	5	0/1	1/3	£999	Evesham Micros
TFI SX25	25	1.44, 120		64k	4 (64)	14" SVGA	1P, 2S	D M T	6	1/2	2/4	£969	Taskforce Tchnlgs
TFI SX50	25	1.44, 120		64k	4 (64)	14" SVGA	1P, 2S	D M T	6	1/2	2/4	£969	Taskforce Tchnlgs
Viglen Genie	25	1.44, 120		64k	4 (64)	14" SVGA	1P, 2S	SD	2/5	0	1/2	£1,099	Viglen
Viglen Genie	25	1.44, 200		64k	8 (64)	14" SVGA	1P, 2S	SD	2/5	0	1/2	£1,367	Viglen
Vtech	25	1.44, 107		128k	4 (32)	14" SVGA	1P, 2S	D	4	1	0	£1,099	Vtech
Zeno 486	25	1.44, 80			4 (16)	14" SVGA	1P, 2S	D	2	2	2	£865	Technology PLC

486 DX PCs

	Processor speed (MHz)	Floppy/hard disk capacity (MB)	Hard disk cache	Cache RAM	RAM (MHz/max)	Monitor	Ports (parallel, serial, serial)	Case types (Desktop, Mini Tower, Tower)	Free slots	Free drive bay (3.5")	Free drive bay (5.25")	Price	Supplier
Akhter LC-33L	33	1.44, 105		128k	4 (32)	14" SVGA	1P, 2S	S D M T	4	0/1	1/3	£1,326	Akhter Computers
Apricot XEN-PC	33	1.44, 160			4 (64)	14" SVGA	1P, 2S	D	3	0	1	£1,299	Apricot Computers
Cl Leo	33	1.44, 80		Yes	4 (32)	14" SVGA	1P, 2S	D	2	1	2	£POA	Enterprise
Compusys VESA	33	1.44, 85		256k	4 (64)	14" SVGA	1P, 2S	D	4	0	1	£1,399	Compusys
Compusys VESA	33	1.44, 85		256k	4 (64)	14" SVGA	1P, 2S	D	4	0	1	£1,399	Compusys
Dan for Windows	33	1.44, 210	2.5Mb	64k	8 (64)	14" XGA	1P, 2S	D M T	2/5	0/1	1/3	£1,372	Dan Technology
Dan Windows Pro	33	1.44, 340	2.5Mb	256k	8 (64)	17" XGA	1P, 2S	D M T	2/5	0/1	1/3	£2,147	Dan Technology
Dell System433M	33	1.44, 120			4 (64)	14" SVGA	1P, 2S	SD	3/6	0	2/3	£1,329	Dell Computer Corp
Dell System433T	33	1.44, 120			8 (64)	14" SVGA	1P, 2S	T	8	0	6	£1,719	Dell Computer Corp
Elonex PC-433	33	1.44, 85		64k	4 (32)	14" SVGA	1P, 2S	SD	3/5	0/1	1/3	£1,275	Elonex PLC
Escom 486DX33	33	1.44, 250		64k	4 (32)	14" SVGA	1P, 2S	T	4	1	2	£1,360	Escom
Haval PC433	33	1.44, 129			4 (32)	14" SVGA	1P, 2S	SD	4/6	0/1	3	£1,210	Paragon Technology
Haval PC450L	33	1.44, 129			4 (32)	14" SVGA	1P, 2S	SD	4/6	0/1	3	£1,279	Paragon Technology
Haval PC450E	50	1.44, 210	1Mb	1Mb	8 (32)	14" SVGA	1P, 2S	T	8	2	4	£2,113	Paragon Technology
ICL D43/33D	33	1.44, 85			4 (32)	14" SVGA	1P, 2S	D	4	1	1	£1,655	Technology PLC
Kamco CAD	33	1.44, 245	VL	256k	8 (32)	17" FST XGA	1P, 2S	D	6	0	1	£2,420	Kamco
Kamco Classic	33	1.44, 170	VL	256k	4 (32)	14" SVGA	1P, 2S	D	3	0	1	£1,249	Kamco
KmcClassicWin	33	1.44, 170	VL	256k	4 (32)								

486 DX2 PCs

	Processor speed (MHz)	Floppy/hard disk capacity (Mb)	Hard disk cache	Cache RAM	RAM (MHz/Max)	Monitor	Ports (Parallel, Serial)	Case types (Slim, Desktop, Mini Tower, Tower)	Free slots	Free drive bay (3.5")	Free drive bay (5.25")	Price	Supplier	Tel
Akter 50L	50	1.44, 105		128k	4 (32)	14" SVGA	1P, 2S	SD MDT	4	0/1	1/3	£1,469	Akter Computers	(01279) 443521
Akter 66 L	66	1.44, 105		128k	4 (32)	14" SVGA	1P, 2S	SD MDT	4	0/1	1/3	£1,570	Akter Computers	(01279) 443521
CI Leo	66	1.44, 80	Yes	4 (32)	14" SVGA	1P, 2S	D	2	1	2	EPOA	Enterprise	(01256) 463754	
Compaq Prolinea	66	1.44, 120		4 (64)	14" SVGA	1P, 2S	S	4	1	0	£2,231	Compaq	(0181) 332 3000	
Compusys VESA	66	1.44, 85		256k	4 (64)	14" SVGA	1P, 2S	D	4	0	1	£1,793	Compusys	(01296) 395531
Dan for Windows	66	1.44, 210	2.5Mb	256k	8 (64)	14" XGA	1P, 2S	D M T	25	0/1	1/3	£1,758	Dan Technology	(0181) 902 9922
Dantium 66 EISA	66	1.44, 210			4 (384)	14" SVGA	1P, 2S	D	6	0	1	£2,188	Dan Technology	(0181) 902 9922
Dell System450M	50	1.44, 210			4 (64)	14" SVGA	1P, 2S	SD	3/6	0	2/3	£1,429	Dell Computer Corp	(01344) 720203
Dell System450T	50	1.44, 210			8 (64)	14" SVGA	1P, 2S	T	8	0	6	£1,819	Dell Computer Corp	(01344) 720203
Elonex PC-450	50	1.44, 85		64k	4 (32)	14" SVGA	1P, 2S	SD	3/5	0/1	1/2	£1,595	Elonex PLC	(0181) 452 4444
EinoxPC466LAN	66				2 (32)	14" SVGA	1P, 2S	S	0	1	0	£1,350	Elonex PLC	(0181) 452 4444
Eicom 486 DX2	66	1.44, 340			8 (64)	15" SVGA	1P, 2S	T	5	0	3	£1,616	Eicom	(01800) 665500
Haval PC462L	66	1.44, 170			4 (32)	14" SVGA	1P, 2S	SD	4/6	0/1	3	£1,430	Paragon Technology	(0121) 326 6363
Haval PC466E	66	1.44, 210	1Mb	1Mb	8 (32)	14" SVGA	1P, 2S	T	8	2	4	£2,187	Paragon Technology	(0121) 326 6363
Kamco/KC433LB	50	1.44, 170	VL	256k	4 (32)	14" XGA	1P, 2S	D	6	0	1	£1,370	Kamco	(01895) 271919
Mash M488DI	66	1.44, 120			4 (32)	14" SVGA	1P, 2S	D M T	5	0	7	£1,352	Mash	(0181) 452 1111
MT 8092-66L	66	1.44, 0		64k	4 (64)	14" SVGA	1P, 2S	D	5	3	3	£1,805	Memorex Telex	(01734) 441544
Oasis DX2	66	1.44, 107		256k	4 (64)	14" SVGA	1P, 2S	SD M DT	4	0/1	0/3	£1,399	Oasis Computer	(01458) 835061
Perfector 50	50	1.44, 105		64k	4 (32)	14" SVGA	1P, 2S	DM	2/5	0	1/2	£1,299	Watford Electronics	(01582) 487777
PwrlinxVesa50C	50	1.44, 120	64k	256k	4 (32)	14" SVGA	1P, 2S	D M T	4	1	2	£1,499	Multiplex Computers	(0171) 498 5252
PwrlinxVesa66C	66	1.44, 120	64k	256k	4 (32)	14" SVGA	1P, 2S	D M T	4	1	2	£1,549	Multiplex Computers	(071) 498 5252
Power IV	66	1.44, 270		512k	8 (16)	14" SVGA	1P, 2S	M	4	1	2	£999	Bits and PCs	(01344) 776050
Power V	90	1.44, 540		512k	8 (16)	15" SVGA	1P, 2S	M	4	1	2	£1,599	Bits and PCs	(01344) 776050
Reeves DX2	66	1.44, 120			8 (64)	14" SVGA	1P, 2S	DM	4	0	1	£1,695	Reeves	(01604) 571277
SC 486DX2	50	1.44, 105	512k	256k	4 (32)	14" SVGA	1P, 2S	S	2	0	0	£1,299	SIR PLC	(01635) 580633
SCB DX2	66	1.44, 120		128k	4 (64)	14" SVGA	1P, 2S	M	4	1	2	£1,399	SCB Systems	(0181) 298 1114
Stealth 66 Pro	66	1.44, 120		256k	4 (32)	14" SVGA	1P, 2S	D	4	1	1	£1,349	Multiplex Computers	(071) 498 5252
Trigem 486MM	50	1.44, 42			4 (64)	14" SVGA	1P, 2S	D	4	2	1	£1,650	Trigem	(01753) 810808
Vale Premier	66	1.44, 120	512k	256k	4 (32)	15" SVGA	1P, 2S	D M T	5	0/1	1/3	£1,739	Evesham Micros	(01386) 765500
Vale Premier Plus	66	1.44, 120	2Mb	256k	8 (32)	15" SVGA	1P, 2S	D M T	5	0/1	1/3	£2,037	Evesham Micros	(01386) 765500
Vanilla 486DX	66	1.44, 85	32k	256k	4 (32)	14" SVGA	1P, 2S	D	1/7	0/2	0/5	£1,649	Vanilla	(0171) 631 5454

Pentium PCs

	Processor speed (MHz)	Floppy/hard disk capacity (Mb)	Hard disk cache	Cache RAM	RAM (MHz/Max)	Monitor	Ports (Parallel, Serial)	Case types (Slim, Desktop, Mini Tower, Tower)	Free slots	Free drive bay (3.5")	Free drive bay (5.25")	Price	Supplier	Tel
P90 P/CDT	90	1.44, 540		256k	8(128)	15" MPRII	1P, 2S	D	2/5	1	1	£1,699	MJN	(01282) 777555
P100 P/CDT	100	1.44, 540		256k	16(128)	15" MPRII	1P, 2S	D	3/4	1	1	£2,299	MJN	(01282) 777555

Portable PCs

	Processor type (MHz)	Processor speed	Floppy/hard disk capacity (Mb)	Cache RAM	Screen (LCD or CRT)	Active Matrix, Color	Ports (Parallel, Serial, IrDA)	Dimensions (mm)	Weight (kg)	Battery life (hours)	Price	Supplier	Tel
AJP 6500DX	Note	486DX	25	1.44, 120	4 (16)	L-C	1P, 1S 1PCM	220x280x45	3.2	2	£1,995	AJP	(0181) 452 9090
AJP 6500DX	Note	486DX2	25	1.44, 120	4 (16)	AM-C	1P, 1S 1PCM	220x280x45	3.2	2	£2,995	AJP	(0181) 452 9090
Elonex NB-425X	Note	486SX	25	1.44, 80	4 (32)	L-M	1P, 1S 1PCM	285x216x44	2.5	18	£1,445	Elonex PLC	(0181) 452 4444
Elonex NB-450	Note	486DX2	50	1.44, 80	4 (32)	L-M	1P, 1S 1PCM	285x216x44	2.5	18	£1,910	Elonex PLC	(0181) 452 4444
Elonex NB-466	Note	486DX2	66	1.44, 80	4 (32)	L-M	1P, 1S 1PCM	285x216x44	2.5	18	£2,010	Elonex PLC	(0181) 452 4444
Freedom 486	Note	486SX	20	1.44, 80	2 (8)	L-M	1P, 1S 1PCM	216x280x45	2.4	2.2	£949	Dataplex	(01753) 535557
Grid 4025N	Note	486SL	25	1.44, 120	4 (32)	L-M	1P, 2S 2PCM	292x215x47	2.7	5	£2,179	Tandy Grid	(0181) 897 6565
MnstrXPDXCol	Note	486DX	33	1.44, 80	4 (20)	AM-C	1P, 1S 1PCM	213x297x48	3	3	£2,675	HM Systems PLC	(0181) 209 0911
Minstrel XP DX2	Note	486DX2	66	1.44, 80	4 (20)	L-M	1P, 1S	213x297x48	3	3	£1,550	HM Systems PLC	(0181) 209 0911
Minstrel XP SX	Note	386SX	25	1.44, 80	2 (8)	L-M	1P, 1S 1PCM	213x297x48	3	3	£850	HM Systems PLC	(0181) 209 0911
Mitac 3020F	Note	386SLC	25	1.44, 80	2 (10)	L-C	1P, 1S	280x220x45	2.5	4	£899	Mitac	(01952) 670370
Mitac 4028G	Note	486SLC	25	1.44, 80	2 (18)	L-C	1P, 1S	280x220x45	2.5	4	£999	Mitac	(01952) 670370
TA Walkstation	Note	386SX	20	1.44, 40	2 (8)	L-M	1P, 1S	279x210x52.5	3	3	£619	Evesham Micros	(01386) 765500
Thinkpad 700	Note	486SLC	25	1.44, 80	4 (16)	L-M	1P, 1S	297x210x48	2.9	3.8	£2,045	IBM UK	(01256) 841848
Toshiba T1850	Note	386SX	25	1.44, 80	4 (12)	L-M	1P, 2S	300x214x57	3.1	5	£1,375	Toshiba	(01932) 852167
Toshiba T1850C	Note	386SX	25	1.44, 80	4 (12)	L-C	1P, 2S	300x214x57	3.3	3.5	£1,750	Toshiba	(01932) 852167
Tosh T4400C SX	Note	486SX	25	1.44, 80	2 (18)	AM-C	1P, 2S 1PCM	297x210x59	3.65	3	£3,595	Toshiba	(01932) 852167
Toshiba T4500	Note	486SX	20	1.44, 80	4 (20)	L-M	1P, 2S 1PCM	297x210x46	2.9	4.5	£1,195	Toshiba	(01932) 852167
Toshiba T4500C	Note	486SX	20	1.44, 80	4 (20)	AM-C	1P, 2S 1PCM	297x210x46	3.1	3.5	£3,150	Toshiba	(01932) 852167
Toshiba T6400C	Laptop	486DX2	50	1.44, 200	4 (36)	AM-C	1P, 2S	390x267x104	5.9	N/A	£5,299	Toshiba	(01932) 852167
Victor 400N	Note	486SLC	25	1.44, 80	4 (8)	L-M	1P, 2S	216x279x44	2.7		£1,419	Tandy Grid	(0181) 897 6565
Victor 400N/C	Note	486SLC	25	1.44, 80	4 (8)	L-M	1P, 2S	216x279x44	2.7		£2,179	Tandy Grid	(0181) 897 6565

Left-Overs Stereoworld
Impact Software • (0114) 275 2333 • £29.99

Stereoworld gives you a chance to be part of the new craze that is sweeping the world. That's what it says on the box, anyway. The "new craze" is apparently stereograms, those weird 3-D pictures that hide obscure images like dolphins or dinosaurs.

In essence, it sounds like an ideal use for PCs, far more convenient than buying oversized posters from dodgy street vendors. Unfortunately, if you can't actually see the 3-D images, there is very little value to be had. Perseverance is the key though, and with enough practice, 3-D vision can be achieved with the minimum of fuss, leaving you free to enjoy the delights of Stereoworld. Or not.

There are 25 basic images to peruse at your leisure, with something for everyone including a violin, a skeleton's foot and a set of skittles. A 'reveal' feature exists to give those in difficulty some idea of what they are looking for. There are also some animated pictures such as a wiggling snake or an aerial view of a chess board. I am reliably informed that there is also a cat morphing into an eagle. Or it might have been a dragon.



More interesting is the ability to create your own stereograms using some preset objects (not your own images sadly) and then print them out to baffle your friends. You can for example create a 3-D wallpaper of a cat sitting on a bike against a background of Marilyn Monroes. Weird!

And there's more. Games. You've had a Magic Carpet stereogram and now there's Stereosaw, Lunar Lander and Escape. All are pretty poor, with the 3-D objects in Stereosaw winning the splitting headache award after only a few intense minutes.

If anyone is intending to spend time with this program I can only recommend a good optician. Stereograms are an elite craze whereby you can all laugh at the poor sod who can't see them and then have deep discussions about the abstract images. It was fun, but it's wearing a bit thin now. Stereoworld will appeal to those with a surfeit of either spare time or hallucinogens.

Steve Hill

56%

Left-Overs Flightstick Pro

Dimensional Services • (01844) 345406 • £79.99



A joystick is a joystick, isn't it? Nope. The Flightstick Pro is the greatest stick ever to grace my PC. Not only is it so well made you are unlikely to dent it even with a thermonuclear explosion, but it is perfectly ergonomic; meaning to can play with it for hours and never suffer wrist strain.

Obviously, being shaped like an aircraft controller, this joystick is perfectly suited to games like *Ka-50 Hokum*, *Flight Commander* and *US Navy Fighters*, but I also used it for games like *Inferno* and *X-Wing* where it performed admirably, and even driving games were no problem, although obviously a steering wheel is best.

One of the FlightStick's greatest aspects is the solid base which prevents it sliding across the desk, and the smooth stick action makes it perfect for banking turns and tight controlled manoeuvres. It also features side-mounted trim adjusters that, for once, don't move after they've been specifically set to a particular game, unlike many other sticks I could mention.

The well moulded central stick has a circular base to rest your hand on during use, and all the buttons are instantly accessible and depress with a satisfyingly solid "Snick." If the Flightstick was a car, it would be a Mercedes.

But there's a price to match. The Flightstick Pro (from CH Products in the US) is a whopping £79.99 and that may be out of the range of many owners. All I can say is, if you only buy one joystick, get this – it will last a lifetime, and it looks really cool.

Recommended!
Damian Butt

94%

Mono Dot-Matrix Printers

Number of pins	Paper width	Draft speed (mm/sec)	NLO speed (cps)	Font	Tractor type	Auto paper parking	Cut sheet feeder	Parallel/Serial	Warranty	Price	Supplier	Tel	
BP 5780	18	16"	520	133	2	Push	*	No	P S	12m OS	£1,599	Seikosha	(01753) 685873
BP 7800	24	16"	520	158	10	Push	*	£245	P S	12m OS	£1,699	Seikosha	(01753) 685873
Brother 1324	24	A4	216	60	7	Push/Pull	*	£99	P S	12m OS	£319	Brother	(0161) 330 6531
Brother 4318	18	A3	800	720	9	Push	*	£289	P S	12m OS	£1,495	Brother	(0181) 946 4960
C-420 XAP	24	11"	216	72	6	Push/Pull	*	£40	P	12m BB	£349	Itochu Electronics	(0181) 946 4960
C-5000	18	15.5"	540	110	3	Push/Pull	*	£250	P S	12m BB	£1,495	Itochu Electronics	(0181) 946 4960
C-515 XBO	24	15.5"	240	80	2	Push	*	£268	P S	12m BB	£268	Itochu Electronics	(0181) 946 4960
Citizen Swift 200	24	A4	180	60	6	Push/Pull	*	£90	P	24m BB	£259	Citizen	(01753) 584111
Citizen Swift 9X	9	A3	160	40	3	Push/Pull	*	£170	P	24m BB	£329	Citizen	(01753) 584111
DP LX 455	33	16"	1,000	350	6	Push/Pull	*	£79	P	12m BB	£395	Data Products	(01734) 884777
FX 1170	9	A3	342	68	3	Push/Pull	*	£210	P S	12m OS	£489	Epson	(01442) 61144
Geniprint 25	24	11"	240	80	5	Push	*	£69	P	12m BB	£240	Genicom	(01252) 522500
KX-P1123	24	A4	192	63	5	Push/Pull	*	£115	P	12m BB	£539	Panasonic	(01344) 853915
LQ 100	24	A4	200	72	8	Push	*	Yes	12m BB	£245	Epson	(01442) 61144	
LQ 570+	24	A4	269	90	14	Push/Pull	*	£49	P	12m BB	£339	Epson	(01442) 61144
LT 20	24	A4	120	50	9	None	*	No	P	12m BB	£299	Seikosha	(01753) 685873
LX 100	9	A4	240	48	3	Push	*	Yes	12m BB	£189	Epson	(01442) 61144	
LX 400	9	A4	180	30	3	Push	*	£79	P	12m BB	£169	Epson	(01442) 61144
MT 130/24	24	A4	300	150	8	Push	*	£115	P	12m BB	£539	Mannesman Tally	(01734) 788711
MT 131/24	24	A3	300	150	8	Push	*	£120	P	12m BB	£629	Mannesman Tally	(01734) 788711
NEC P62	24	A4	300	150	10	Push/Pull	*	£99	P S	12m BB	£459	NEC	(0181) 993 8111
NEC P72	24	A3	300	150	10	Push/Pull	*	£115	P S	12m BB	£549	NEC	(0181) 993 8111
Oki ML380	24	8"	240	64	4	Push	*	£79	P	12m BB	£329	Oki Systems	(01753) 819819
SL150	24	16"	200	67	9	Push	*	£127	P	12m BB	£349	Seikosha	(01753) 685873
685873SL-92 Plus	24	10"	200	67	9	Push	*	£82	P	12m BB	£280	Seikosha	(01753) 685873
SP 2415	9	16"	200	50	5	Push	*	£127	P S	12m BB	£299	Seikosha	(01753) 685873

Mono Ink-Jet Printers

Number of pins	Tractor type	Auto paper parking	Cut sheet feeder	Parallel/Serial	Warranty	Price	Supplier	Tel	
Breeze 100	P	300	A4	83	53	3	£349	Fujitsu	(0181) 573 4444
Breeze 200	D	300	A4	360	120	3	£500	Fujitsu	(0181) 573 4444
Canon BJ-10SX	P	360	A4	110	110	6	£299	Canon UK	(01800) 252223
Canon BJ-200	D	360	A4	248	173	7	£329	Canon UK	(01800) 252223
Canon BJ-300	D	360	A3	300	150	3	£599	Canon UK	(01800) 252223
Canon BJ-330	D	360	A3	300	150	3	£699	Canon UK	(01800) 252223
Jetmate J800	D	300	A4	160	120	5	£239	NEC	(0181) 993 8111
Jetmate J800	D	300	A4	360	120	9	£369	NEC	(0181) 993 8111
Speedjet 300	D	300	A4	300	300	3	£359	Seikosha	(01753) 685873
SQ 1170	D	360	A3	660	240	11	£899	Epson	(01442) 61144
SQ 870	D	360	A4	660	240	11	£659	Epson	(01442) 61144

Colour Printers

Type	Colours	Maximum resolution	Maximum paper size	Draft speed (cps)	High quality speed	Fonts	Continuous paper	Price	Supplier	Tel
Citizen Swift 240C	Dot Matrix	4	24-pin	A4	200	66	9	£359	Citizen	(01753) 584111
Citizen Swift 90C	Dot Matrix	4	9-pin	A4	180	45	6	£219	Citizen	(01753) 584111
HP Deskjet 550C	Ink-jet	All	300	A4	240	167	5	£459	Hewlett-Packard	(01344) 369222
JX-735	Ink-jet	All	180	A3	120	105	7	£1,295	Sharp	(0161) 205 2333
KX-P2180	Dot Matrix	8	9-pin	A4	192	38	7	£270	Panasonic	(01344) 853915
MT 151/9F	Dot Matrix	4	9-pin	A3	300	75	4	£589	Mannesman Tally	(01734) 788711
P72	Dot Matrix	8	24-pin	A3	300	150	10	£608	NEC	(0181) 993 8111
P72	Dot Matrix	8	24-pin	A3	400	200	10	£799	NEC	(0181) 993 8111

Laser Printers

PCL/Postscript	Speed (pages per minute)	Maximum resolution	RAM (MHz/bytes)	Fonts	Maximum paper size	Tray capacity	Number of trays	Total cartridge life (pages)	Price	Supplier	Tel	
Canon LBP-4lite	Other	4	300	0.5 (2.5)	13	A4	70	1	3,500	£899	Canon UK	(01800) 252223
Canon LBP-4plus	Other	4	300	1.5 (2.5)	13	A4	70	1	3,500	£1,175	Canon UK	(01800) 252223
Canon LBP-8 IV	Other	8	600	2 (10)	25	A4	250	2	2,600	£1,699	Canon UK	(01800) 252223
EPL 5000	PCL4	6	300	0.5 (6.5)	28	Legal	250	1	6,000	£745	Epson	(01442) 61144
EPL5200	PCL4	6	300	1 (5)	28	Legal	250	1	6,000	£929	Epson	(01442) 61144
HP Laserjet 4L	PCL5	4	300	1 (2)	26	A4	100	1	3,000	£649	Hewlett-Packard	(01344) 369222
HP Laserjet 4M	PCL5/PS	8	600	6 (26)	45+35	Legal	100	2	6,000	£1,949	Hewlett-Packard	(01344) 369222
HP Laserjet 111P	PCL5	4	300	1 (5)	22	Legal	70	1	3,500	£809	Hewlett-Packard	(01344) 369222
JX-9500 H	Other	9	300	0.5 (4.5)	6	A4	250	1	3,000	£895	Sharp Electronics	(0161) 205 2333
JX-9600	PCL5	8	600	1 (9)	27	A4	500	2	15,000	£1,159	Hewlett-Packard	(01344) 369222
Kyocera F-800T	PCL4	8	300	0.5 (4.5)	79	A4	150	1	4,000	£999	Kyocera	(01734) 311500
Oce 6121	PCL4	8	300	0.5 (4)	8	A4	200	1	3,000	£940	Oce Systems	(0181) 502 0038
Oce 6122	PCL4/PS	8	300	1.5 (4.5)	35	A4	200	1	3,000	£1,630	Oce Systems	(0181) 502 0038
Oce 6123	PCL4/PS	8	300	4.5 (8)	35	A4	200	1	3,000	£1,865	Oce Systems	(0181) 502 0038

Scanners

	Flatbed/ Handheld	Colours	Grey scales	Max resolution	Maximum scan area	Software	Price	Supplier	Tel
Col Handy Scanner	H	262K	64	200	A4	FotoTone	£299	Evesham Micros	(01386) 765500
G765-PCPL	F	16.7M	256	1200	A4	Picture Publisher LE	£875	Epson	(01442) 61144
HP Scanjet 111P	F	0	256	300	A4	DeskScan PhotoFinish	£795	Hewlett-Packard	(01344) 369369
JX-100	H	262K	64	200	3.9" x 6.3"	Windows Scan 100	£495	Sharp Electronics	(0161) 205 2333
JX-320	F	16.7M	256	600	A4	Photoshop/Style	£1,495	Sharp Electronics	(0161) 205 2333
Naksha Hand Scan	H	0	0	3	4"	Naksha	£40	Naksha	(01925) 56398
SB-L301	F	16	300	Legal		Pentax	£1,195	Pentax	(0181) 864 4422
Scanman 256	H	0	256	400	10.5cm	FotoTouch	£279	Logitech	(01344) 891313
Scanman 32-DOS	H	0	32	400	10.5cm	GreyTouch	£109	Logitech	(01344) 891313
Scanman 32-Win	H	0	32	400	10.5cm	FotoTouch	£159	Logitech	(01344) 891313
Scanman Colour	H	16.7M	256	400	10.5cm	FotoTouch Colour	£449	Logitech	(01344) 891313

Miscellaneous

	Type	Description	Price	Supplier	Tel
Multimedia Discovery Kit	Multimedia	MPC standard multimedia upgrade kit	£500	Westpoint Creative	(01743) 248590
Multimedia Professional Kit	Multimedia	MPC standard multimedia upgrade kit	£600	Westpoint Creative	(01743) 248590
Multimedia Starter Kit	Multimedia	MPC standard multimedia upgrade kit	£450	Westpoint Creative	(01743) 248590
Naksha Mouse	Pointer	3-button serial mouse	£49	Naksha	(01925) 56398
Paradise Graph Accelerator	Graph Card	Accelerated SVGA graphics card	£90	Western Digital	(01372) 360055
Prolimage 1000	Graph Card	Accelerated SVGA graphics card	£99	Opti Technology	(0181) 559 1137
Sonix Sostenuto	Port	High speed serial port for fast modems	£195	Sonix	(01285) 641651
SoundBlaster	Sound Card	8-bit sound card	£89	Westpoint Creative	(01743) 248590
SoundBlaster Pro	Sound Card	16-bit sound card	£129	Westpoint Creative	(01743) 248590
Sprinter 2 Graph Accelerator	Graph Card	Accelerated SVGA graphics card	£195	Surtech	(01256) 51221
Stealth VRAM Graph Accel	Graph Card	Accelerated SVGA graphics card	£199	Evesham Micros	(01385) 765500
Trackman Portable	Pointer	Portable Trackball	£95	Logitech	(01344) 891313
Tseng ET4000 Graph Accel	Graph Card	Accelerated SVGA graphics card	£59	Novatech	(01705) 664144
Vale Multimedia Upgrade	Multimedia	MPC standard CD-ROM/Sound+software	£399	Evesham Micros	(01385) 765500
Vale PC Sound Package	Sound	Soundblaster/speakers/joystick/games	£119	Evesham Micros	(01385) 765500

PC POWER

If you are a hardware manufacturer and you have a product (computer or accessory) that you would like to be included in the PC POWER Hardware Guide, please send full details to *The Editor, PC POWER, Durham House, 124 Old Christchurch Road, Bournemouth, Dorset BH1 1NF*. We'll do our best to include your product in the next issue.



Left-Overs Pro Player

Selective • (0131) 447 8051 • £17.99
(Includes shareware copy of *Rise of the Triads*)



To handle the Pro Player on any game at all, you have to be just that – a pro player. Regardless of what game you plug it into; flight simulation, driving, or general arcade game, you'll be wrestling with it until your thumbs can take no more.

Basically, it is a glorified Super NES pad, complete with the two buttons on the top. There are eight buttons in total, but it's really a waste of plastic considering most of them perform the same action, such as shoot or jump.

The Pro Player's shortcomings can be demonstrated by using it with a typical flight simulation, like *Ka-50 Hokum*. You spend ages adjusting your heading because it just doesn't settle into the direction you want to go. To top it all, only two of the available buttons are of any use; the weapon select and the weapon fire.

The deficiencies really show up on a typical racing game such as *Indycar*. I know the game is heavy on the steering at the best of times, and to be fair most digital joysticks or pads will have the same effect. But just try turning a 90° bend using this, you've got to be going 35 mph maximum, and it takes forever. On the plus side, at least you can use the buttons to brake, accelerate and change gear.

This kind of pad is much more suited to football games like *FIFA International Soccer*, providing the kind of control needed. If it works on the Super NES and Megadrive, then there's no reason why it shouldn't work on this.

Apparently one game it does work well on is *Doom 2*, but having spent several hours on various machines attempting to verify this rumour, without managing even one step forward, it's hard to comment on that. Most experienced *Doom* players will tell you that the keyboard's by far the best method of control anyway. Stay away from this on all accounts, unless you're playing a basic arcade game and only then if you're so used to control pads that you can't cope with real joysticks.

Keith Pullin

46%

JON'LL FIX IT



Is your memory mangled? Has your software turned suicidal? Is your hard disk hurting? Then write to Jon'll Fix it, PC Power's new technical Q&A section where our resident technical expert will solve all your worries and then tuck you into bed with a hot toddy and a mug of Horlicks. He really is that good.

So get your problems to Jon now and prepare to be amazed – no job too small or smelly, simply include a detailed description of your problem, including error messages. With any DOS problems you should include a copy of your CONFIG.SYS or AUTOEXEC.BAT files for Jon to scrutinise.

Send your questions and headaches to *Jon'll Fix It, PC Power, Durham House, 124 Old Christchurch Road, Bournemouth, Dorset BH1 1NF.*

Hard Disk Hassles

Goodness gracious me, guys 'n gals, jangle, jangle, jewelry, jewelry. Now then, a number of letters have been sent in regarding reports of a hard disk error which seems to correct itself, but leaves one or more of the hard disk's directories full of files which have indecipherable names and improbable file sizes.

This is caused by the hard disk's File Allocation Table (FAT) being corrupted for some reason. It can happen if DOS is unable to finish writing a file to the drive due to a system crash, power failure or damage to the disk's surface.

Luckily, the solution to this problem is not as obscure as its cause. Microsoft have included a utility called *Scandisk* with DOS for dealing with just such nail-biting moments. All you have to do is type

SCANDISK C:

(that's Scandisk <space> <drive letter> :) and watch as the utility attempts to make sense of your hard disk's woes.

When *Scandisk* does encounter an error on your drive, it will prompt you to find out what action you wish to take. Three options are initially available to you – Fix It, Don't Fix, or Further



Info. Choose 'Fix It' and you will be prompted again to decide whether to save a back-up of the affected areas (only do this if you're worried about losing more data).

Inevitably, some errors will occur where *Scandisk* is unable to determine which files belong to certain groups, but you can always load each of the .CHK files into DOS Edit and see if there's anything worth keeping.

When the file and directory structures have been checked, *Scandisk* will ask you if you want to perform a Surface Scan. This tests every inch of your hard disk for errors and provides the same Fix It/Don't Fix, Save Undo/Don't Save options as the previous checks. I advise you to run this test after any serious hard disk error because if the error was caused by damage on the disk's surface, it will only reappear the

JON'S DISK HOTLINE

If you have a problem with your coverdisk, call Jon now on his very own hotline number, open 4-5.30pm weekdays only (not weekends, please. This is not a general helpline).

Pick up the phone now and Jon will fix it for you! The number to call is:

 (01202) 299900, ext 41

MOUSE MAINTENANCE

When your mouse begins to operate in a lumpy or unpredictable way, the most common cause is dirt accumulating on the ball and sticking to the rollers inside. To fix this, here is Jon's Fix It guide to keeping your mouse in a useable state.



First remove the ball cover by rotating it as indicated by the arrows on the cover.



Now turn the mouse the right way up and hold your hand below the mouse to catch the ball and cover.



Clean the ball by rubbing it with a dry, lint-free cloth.



Wipe the rollers with a cotton bud covered in pure alcohol.



Replace both ball and cover.

next time that area of the disk is used. Hope this helps.

Sound advice for Windows

Dear Jon,
When I upgraded my Soundblaster to a Soundblaster 16, I installed the DOS and Windows software just as I had with the original Soundblaster. The DOS software all works fine, but when I started Windows it reported an error "Incorrect INT setting in SYSTEM.INI" and refused to play any sounds. Is this a fault with Windows and Soundblaster, or do I have to install the software differently? M Daniels (Miss), Luton.

Jon says: This is a common problem when upgrading from one version of the Soundblaster to another. For some reason, the installation software does not work if a previous installation is present in your Windows initialisation files.

There are two ways to get round this. You can first re-install Windows, then the Soundblaster, and finally all other software. This is more than a little time-consuming though, so try typing

EDIT \WINDOWS\SYSTEM.INI

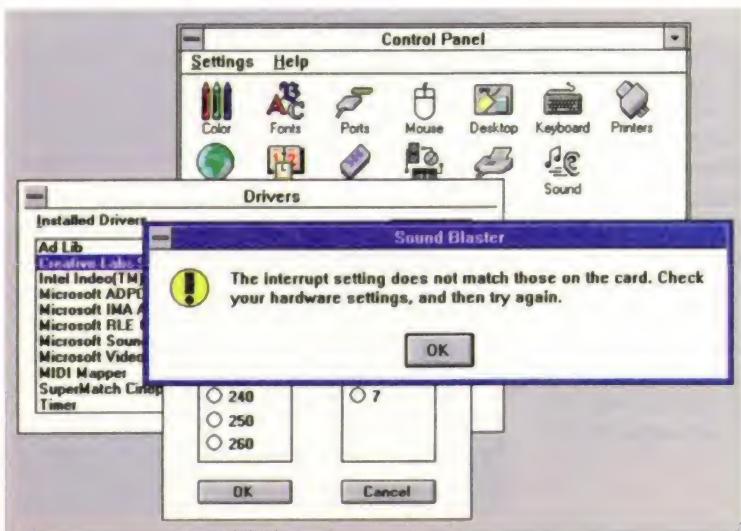
at the DOS prompt. Now choose the 'Find' option from the 'Search' menu of the editor and type

VSBD.386

as the text to be searched for.

When *Edit* finds the line that contains this text, go to the left of the line and type a semi-colon, then save the file.

This will stop Windows from attempting to use the SoundBlaster. Now start



Budget Reviews

Found yourself with some excess coinage now that the flame of Christmas has well and truly been snuffed out? Keith Pullin did too, so we sent him down town to see what was hot in this spring's budget collection.



THE RYDER CUP BY JOHNNIE WALKER

Hit Squad: £12.99 HD

Inaugurated at Wentworth in 1926 by Britain's Samuel Ryder and America's Walter Hagen, the Ryder Cup tournament grew into the biennial USA vs Europe golf-fest that we know and love, Bernard Langer excepted.

With spectacular shaded trees, bunkers and water traps, Ryder Cup has all the ingredients of a classic; wide panning views, delicate chip shots, a full bag of clubs and a choice of four courses.

The game engine is a bit twitchy though, with the ball following the laws of silly putty

rather than physics. However, it comes into its own in two player mode and will almost certainly bring lasting enjoyment.

Overall 79%

ELITE PLUS

Action 16: £14.99 HD

What can you say about *Elite* that hasn't already been said? Addictive, original, enthralling; it is probably one of the most played games of all time. *Elite Plus* is pretty much the same, except it runs in 256 colours and has a more visual systems information screen. Prepare to go 'where no man has gone before'...

With your father blown away by the notorious 'Black Cobra', you are given a spaceship and 100 credits by your uncle, and basically told to get a life. So off you go to slay a few pirates, find a good interplanetary trading route and see what adventures the universe can throw at you.



Contained in this version are six special missions, one of which actually gives you the chance to avenge your father's death.

With combat that is actually more fun than *Frontier* (last year's sequel), plus an excellent trading system, this is still a game to wile away those grim Sunday afternoons.

Overall 89%

TEAM YANKEE

Action 16: £14.99 HD

This old warhorse has unremarkable graphics and less than inspirational sound. But for historical accuracy, *Team Yankee* cannot be faulted. Classic battles such as protecting the Langen Gap from an entire Russian battalion will test your knowledge of tanks and tactics to the full.

Task Force

Powerplus • £16.99 • HD

Pearl Harbour was a bit sneaky, so here's your chance to get back at the Imperial Japanese Naval Fleet. Set in the South Pacific, *Task Force* is a comprehensive naval simulation, putting you in charge of an entire fleet of cruisers, destroyers, frigates, and more.

Variation is where this game scores highly. You must protect yourself from kamikaze pilots, watch out for subs, attack small island strongholds; all the time half expecting the entire Japanese fleet to steam into view over the horizon.

The sheer rush you get when a ship is spotted is incredible. As the radio crackles into life, the rest of the convoy smoothly

assume a defensive formation and the sound of cannons rips through the air.

The wide selection of sea charts gives it that strategic feeling and there are spectacular external views of some of the most ferocious battles you're ever likely to see. At night you can see the flashes of Japanese guns and tracers arcing down to the glistening water. I've never played a naval simulator that's so well presented and compulsive. Naval buffs will love it and even if this isn't your normal bag, give it a chance because it's my budget title of the month!

Overall 90%



BUDGET BLOCK BUSTER





The multiple screens allow you to take simultaneous control of four vehicles, giving you a complete overview of the whole war situation. Detailed maps show you the position of enemy platoons, friendly villages and of course the lay of the land. Notable competence in battle is even rewarded with promotion.

Weapons are in abundance; TOW missiles, 50mm machine guns and even smoke screens can be used to counter and confuse the enemy.

Unfortunately, *Team Yankee* is all a bit basic in the long run, but not bad for short term tank busting fun!

Overall 74%



TORNADO: OPERATION DESERT STORM

Action 16: £16.99 HD

With established options such as two player head-to-head and team mode, plus formation strikes, a massive map area, night, day and all-weather missions, *Tornado: Operation Desert Storm* is an experience that is hard to forget.

If there is a quibble, it's with the graphics. They lack any kind

of shading or texture mapping and are prone to the odd spasm or three. You can't knock the ground detail though; the trees, roads, buildings and moving vehicles (that even have their lights on at night!) all add greatly to the experience.

If you want a realistic chance to re-enact the Tornado's Gulf War role, which included knocking out radars, bombing air fields and hunting SCUDs, this is the game for you.

Overall 87%



EUROPEAN CHAMPIONS

Hit Squad: £12.99 HD

Fantasy Football's Skinner and Baddiel would have a right chuckle at this one. Lousy graphics, poor player intelligence, incredibly slow – in fact it's everything you don't want in an arcade football game. I've had more fun watching Portsmouth Town!

The option of sideways or overhead view is a good idea and the choice of tournaments is commendable. But the goalkeepers must have been lobotomised in the changing room, either that or they've been bunged a few tips by Bruce Grobbelaar. They really are as much use as an ashtray on a motorbike!

European Champions really is a stinker of a footy game. Stick to *Sensi*, or better still, play a console soccer game – they do it much, much better than this.

Overall 41%



B17 FLYING FORTRESS

Powerplus: £16.99 HD

Set during World War II, you are part of a massive campaign of bombing missions over occupied Europe. Equipped with seven guns, you have to shoot down any approaching fighters, and of course drop the bombs at the end.

B17's value lies in the fact that you have the option to completely forget about navigation and concentrate on the shoot-'em-up side of things. You can use the time acceleration mode to reach some action and then switch between the various guns to blow the Luftwaffe out of the sky.

For a two year old game, the graphics are exceptional. Details like bursts of flame from the guns and rotating propellers all add to the intense dog fighting atmosphere.

For realism, you can mess around with the controls and adjust targets and other details, although *B17* is nowhere near as heavy as something like *Tornado*. As an all-round flight simulation, *B17* is superb, there's a little bit for everybody.

Overall 86%

Fourteenth Century feel of the game.

With diverse options such as laying on feasts to impress the populace, you become quite immersed in the whole gaming world. Running around frantically hiring crew for your ship is also good fun. They need weapons of course, otherwise valuable cargo could be stolen at sea. Other disasters that befall you include a fire in the warehouse, or worse; your home town could be struck down by the plague!

Patrician is easy to play and will offer many hours of entertainment. Ideal if you've ever had aspirations to enter the import/export business!

Overall 78%



HARRIER JUMP JET

Powerplus: £16.99 CD-ROM

The Harrier Jump Jet, made famous by the Falklands skirmish, is one of the few jets in the world with VTOL capabilities – that's vertical take-off and landing.

In this game you embark on a bombing/dog fighting campaign in such exotic locations as China, Scandinavia and, funny enough, the Falklands. Like *Tornado*, *Harrier Jump Jet* is quite heavy going, but doesn't possess the same realistic feeling of flight.

The graphics, however, are superb, with abundant Goraud shading and a good selection of external views. There is also a massive selection of objects including helicopters, cities, roads, mountains and rivers. The lack of weaponry is disappointing though, with only six available pieces of death-dealing hardware.

But most annoying is the way the installation program doesn't give you the option to install from CD-ROM, a bit of a shortcoming really considering that's the media it comes on.

Tricky to install and just as fiddly to play, *Harrier Jump Jet* is not the best of its kind, but rewarding in the end.

Overall 82%



THE PATRICIAN

Impressions: £16.99 CD-ROM

If you enjoyed *Tai-Pan* on the Spectrum or CBM 64, then you'll probably love this. The idea is to sail around Europe, trading items to increase your merchant empire. You can also chase political dreams and stand for high positions in many town governments.

Originally released in 1992 and now re-released on CD-ROM, *Patrician* doesn't exactly excel when it comes to sound effects. The graphics are not exemplary, but suit the

BUDGET TOP TEN

- 1 (9) Bram Stoker's Dracula
 - 2 (1) Hexx - Heresy of the Wizard
 - 3 (2) Obitus
 - 4 (4) Hired Guns
 - 5 (8) Championship Manager 94: End of Season
 - 6 (6) Armourgeddon
 - 7 (3) Dungeon Master
 - 8 (7) Dune 2
 - 9 (5) Creepers
 - 10 (-) Easy to Learn Computing
- Chart provided by Gallup.

Psygnosis
Psygnosis
Psygnosis
Psygnosis

Domark
Psygnosis
Psygnosis
Hit Squad
Synopsis
Premier Collection

The Public Eye

This regular page is intended to take you through the latest shareware entertainment titles, but what is shareware, and how can you get hold of the titles listed here?

Shareware is a method of distributing software whereby you can receive a demo or cut-down version of a program for free, and 'register' by paying a set fee to the authors, who will then upgrade the software to the full version.

If you have access to Compuserve or the Internet, then shareware will already be available to you through the bulletin boards and forums provided. If you are not a modem-owning net user, you can still get your hands on the latest shareware titles from Public Domain software companies such as Red Dragon Shareware (0745) 338094, who charge around £2-£3 per disk to send you the software on floppy. By law they are only allowed to charge for the disk, carriage and administration, not the software itself. If you are a PD company or want to offer us selected shareware to be included in the Public Eye, please contact Jon Pyle on (01202) 299900.

RISE OF THE TRIAD

Apogee Software

Apogee's pedigree is well known to most PC gamers because they originally released *Wolfenstein 3D*, the predecessor of *Doom* and *Doom 2*. Now they have returned to the format using *Doom*'s graphics engine.

ROTT is a fast and furious violent game that allows up to five members of a team to embark on mercenary missions. These take place in an arena which is reminiscent of *Doom*, but which has a number of extra features. Platforms have been added which hurl you into the air so you can perform acrobatic manoeuvres to reach bonuses and

power-ups, rotating spikes rise through the floor, plate glass windows shatter when fired upon, and some enemies even beg for their life when wounded.

ROTT features quite a few unusual weapons, most notably the two magnums, MP40 machine gun, and an unpredictable 'drunk missile', which sends out four homing shells simultaneously. One hit and the enemy troops literally fly apart!

To be fair the graphics in *ROTT* are not as detailed as *Doom 2*, but it is the special effects that really make this game. For example there's a great sequence where you are engulfed in poison gas and must rush around to find the gas mask



before you die. And not forgetting the incredible magic mushroom mode where you temporarily sway about and see funny colours everywhere – it's mad!

ROTT is a good enough distraction for a while, but it lacks the subtlety and cunning of *Doom 2*. The graphics can be a bit blocky and the mazes are a little repetitive, but what *ROTT* will do is keep iD on their toes. Nothing like a bit of healthy competition.

HERETIC

Raven Software

Heretic takes the well known *Doom* engine and adds a Dungeons and Dragons twist to the gameplay. The game features many of the same puzzles, but adds an inventory screen where objects can be stored and retrieved as needed, and an armour system which bears



more than a passing resemblance to *FTL's Dungeon Master* games.

Shields, gauntlets and the like



can be collected from the hidden areas in the game to increase your chance of survival and, of course, the usual *Doom*-game plethora of deadly weapons are available, such as the Ethereal Crossbow and the Dragon Claw. Will appeal to *Doom* fans, but don't expect anything new.

DESCENT

Interplay

Again the 'D' game rears its head, but *Descent* owes less of its appeal to *Doom*'s achieve-

ments than the other two games covered here. The game places you in a maze of underground tunnels, surrounded by agitated robots who have rebelled against their mining corporation masters. Your aim is to battle your way through the mineshafts to reach the power generators, and destroy them.

You move around the mines in a small spacecraft which can bank left and right, climb, dive, accelerate and reverse. This complicates *Doom*'s keymap a little, as it adds two extra keys, but once this is mastered the game really comes alive.

The major difference between *Descent* and *Doom* is that you are no longer tied to the ground but are free to move in any direction, meaning that you can hover in small crevices to ambush enemy robots, or dive screaming out of the ceiling to mount a surprise attack.

This game still has me hooked and I've been playing it solidly for several weeks now, much to the annoyance of big ed. If you can't afford to buy the full version of this game, or simply don't believe me, then try the demo version on the cover CD (sorry there wasn't room on the floppy version). I guarantee you will enjoy *Descent*.





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Power Test

Racing Simulations

Forever strapping himself into some cockpit or other, Paul Mallinson slams the pedal to the metal in the racing simulator Power Test, whilst simultaneously testing methane as a viable rocket fuel.

Racing simulators have been thrilling home computer fans for the past ten years. Atari's *Pole Position* made waves in the arcades way back in 1982. Since then hundreds of racing games have appeared in every conceivable shape and form. While some of them can hardly be called 'hair-raising' (try sellotaping a hair dryer to the monitor for the full effect), the best examples of the genre are held in extremely high regard by speed freaks everywhere. But what are the best examples of the racing genre – and I'm talking about serious racing simulators here, not arcade games – and which should you consider buying? Once again, we gather five of the best together to tell you which is the Daddy Cool of the bunch.

Formula One Grand Prix

Goeff Crammond's *Formula One Grand Prix* knocked PC owners for six upon its first release in 1991. As the only really good 'serious' driving simulator for 16-bit machines at the time, *F1GP* was the first to provide high production values with effective polygon routines on the PC platform. It was also

the first to incorporate software allowing the link-up of PCs for multi-player races (although, for the record, *NASCAR* and *Indycar* are capable of this as well).

F1GP, for the pure Formula One freak, is the ultimate. Forget *Indy* or *Stock Car* racing. The game provides a whole host of



options: championship seasons, single races, practice, pre-season warm-ups – the lot. Winning is something that must be pre-

pared for, and there are enough options to train absolute beginners to become champs in a couple of weeks.

Publisher: Microprose/Budget £16.99

Minimum System: 286 or higher, 1Mb RAM, MCGA/VGA, DOS 5.0 or higher, 6Mb HD space
Supports joystick, mouse, SoundBlaster, AdLib, Roland

Indianapolis 500

Now this one is a golden oldie. The ubiquitous Papyrus Publishing unleashed this sim onto the unsuspecting 16-bit market nearly three years ago and it has stood the test of time rather well.

The Indianapolis 500-mile classic is contested by 33 racers every year. This simulation presents players with the chance to take part in this epic race. There are three different cars/teams to race with, but just the one track to race on.

The origins of *Indycar Racing* can be seen in this program – the excellently designed cockpits in *Indy 500* emerge again in *Indycar*, the instant replay feature and the car set-up screens will all be familiar to *Indycar*



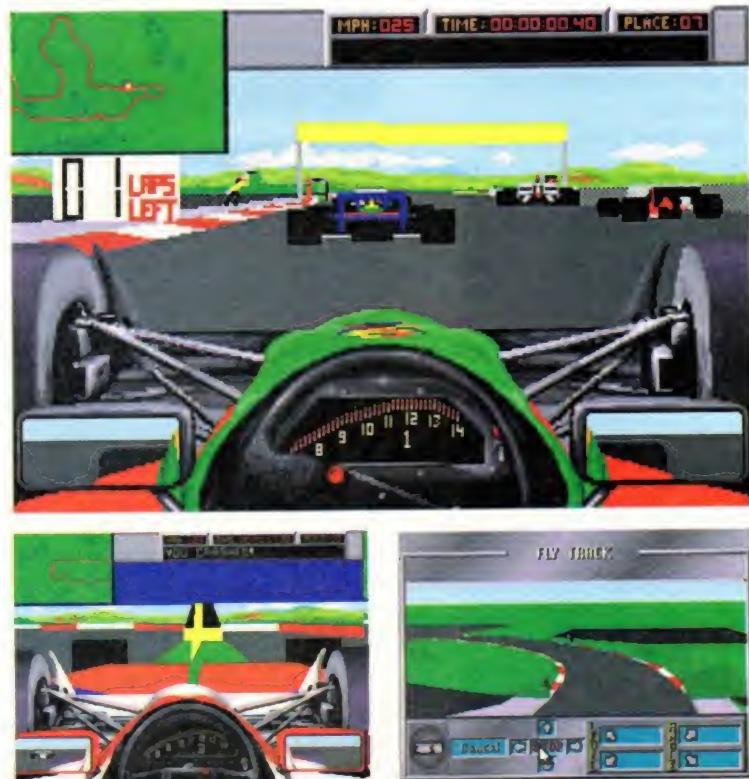
players who have yet to experience *Indianapolis 500*.

Coming on just the one floppy disk, *Indy 500* is limited in what it offers, but for a measly £14.99 it's still worth a nostalgic look.

Publisher: EA/The Hit Squad
£14.99

Minimum System
286 or higher, 512K RAM, EGA/MCGA/VGA, DOS 5.0 or higher. Supports joystick, SoundBlaster, AdLib, Roland

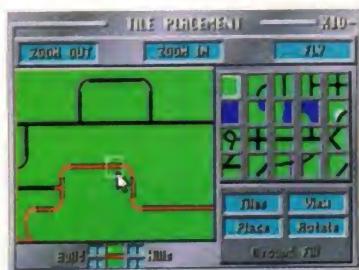
Grand Prix Unlimited



This Formula One simulator is the only title in this month's Power Test that comes complete with a full track designer. Great, you might think – this should enhance the longevity and general enjoyment of the overall product. Not so, I'm afraid. The problem with GPU is that, while there are many options and user-definable features, the actual handling of the car on the track is unbelievably poor – completing a lap is nigh on impossible, never mind winning a race.

Like most of the sims here, GPU has depth in the amount of options available – the track designer is easy enough to use,

but quite long-winded in execution. All the major racing teams are available, as well as the courses associated with a full Grand Prix season. As with the other games here, an instant replay option has been included – if you ever end up with a race exciting enough to view again that is...



Publisher: Accolade/The Hit Squad
£12.99

Minimum System
286 or higher, 570K RAM, MCGA/VGA, DOS 5.0 or higher. Supports joystick, mouse, SoundBlaster, AdLib, Roland, Thunder Board

Indycar Racing

I first saw *Indycar Racing* nearly two years ago and it blew me away. In fact, it is the only game that has remained on my hard drive, untouched, since I first bought my PC.

On a fast 486 (or better) *Indycar Racing* has to be seen to be believed. The attention to detail is amazing, and this is the first thing that will hit you. The second thing to hit you will be the wall, because this game is tough.



Not that the program is user-unfriendly, far from it; it's just that Indycars are heavy machines and notoriously difficult to control. There are plenty of options to make things easier though. Over 15 excellent courses are available to race, but if you want to get anywhere you'll have to practice.



A number of add-ons are also available, including a program update, extra courses and even a paint kit, allowing the texture maps on the cars to be customised (mine's lizard skin!).

Publisher: Virgin Interactive Entertainment
£29.99

Minimum System
386 (486 recommended), 4Mb RAM, VGA, DOS 6.0 or higher, 12Mb HD space. Supports joystick, mouse, Thrustmaster T1, all major sound cards

NASCAR Racing



The North American Stock Car season is not a sport for the constitutionally weak. In cars with a top speed of 180mph, the racing action is fraught with danger and accidents and collisions are frequent (and quite often intentional!).

Translated to the PC, the sport of stock racing is just as exciting as the real thing. Papyrus, the developer behind *Indycar Racing*, have done a good job once again. There are three racing options available (single race, championship season and pre-race testing) with around ten different tracks to race on.

Every aspect of the game can be customised to the Nth degree: from the gear ratios in the car, to the intelligence of the opposing drivers. The character



of the stock car sport unfortunately resigns drivers to racing on less-than-spectacular oval courses, but in the midst of a charging pack of weaving and flipping cars this is not really a problem.

Publisher: Virgin Interactive Entertainment
£34.99

Minimum System
486 or higher, 4Mb RAM, VGA, DOS 6.0 or higher, CD-ROM drive. Supports joystick, mouse, Thrustmaster T1, SVGA, all major sound cards

PRESENTATION

Indycar Racing, *Indianapolis 500* and *NASCAR* are all from the same development house, Papyrus, and therefore display some degree of common identity, if not the identical game engine.

Some would call it lazy, but all I can say to that is "if it ain't broke, don't fix it" because, let's face it, *Indycar* and *NASCAR* have got some great graphical touches built in to the main game code.

Both of the aforementioned games need some serious computer power to get the best out of them however, so forget running *NASCAR* in SVGA; even on a P90 with full detail, it runs like treacle, and the frame rate drops to annoying levels.

Grand Prix Unlimited is colourful and neatly put together, but the 3-D tracks are poor and the cars just don't look right. The game has the look of a mid Eighties piece of software, and seeing as it's a 1992 game, that can't be a good thing at all.

Formula One Grand Prix has stood the test of time very well. The 3D Studio rendered course overviews are smart, but the intro sequence is a bit cheesy. The polygon graphics (roadside objects, cars, etc) are also plain in comparison to *Indycar* and *NASCAR*, but have the added advantage of being super smooth – especially on a 486.

EXHILARATION

Starting at the bottom, *Grand Prix Unlimited* must be the least exhilarating of the group. It's about as racey as a ride in an invalid carriage! The main problem is that the 3-D is crude and the view to the horizon extends to only 40 feet in front of your car – not enough to gauge speed and distance accurately in my opinion.

Indianapolis 500 is super fast on a 486. The speed is exciting (but not completely convincing) and the low angle of view helps the illusion as you tear-arose down the track.

NASCAR is very similar to *Indy 500* in terms of angle of

view. Both exclusively feature oval tracks (so you also feel as though you're always steering into fast left hand corners) and a similar control method.

Indycar and *Formula One Grand Prix* are close runners in this section. The asphalt marks on the track (in both games) enhances the feeling of speed – *F1GP* even provides an option to display the fastest racing line as a marker on the road. This does wonders in terms of practice and helps the player to maintain top speed for as long as possible. I found the hills, drops and undulations of the *Indycar* tracks an amazing addition. There are gradient changes in *F1GP*, but you don't notice them as much.

DEPTH

All of the titles in this month's Power Test feature some degree of car and environment customisation. *Indycar* may be seen by some as, erm... 'going off at the deep end'. If racing enthusiasts want detail – and I mean detail – then *Indycar* will deliver the goods in spades.

In the depth department, *GP Unlimited* loses out for the realism of the cars, but full marks for the track designer. *Indy 500*, with its three cars, one track and one floppy disk approach suffers here too.

NASCAR contains very similar customisation methods, but this is no surprise because the



game's basically the same as *Indycar*, but with different vehicles. *Formula One Grand Prix* is thorough enough – there are options to change tyres, engines, fin angles, and so on – but it doesn't go into as much of the 'sad' detail as *Indycar*. Personally, I give *F1GP* the edge in terms of user-friendliness, even though it loses out in the overall depth stakes.

ENTERTAINMENT

Indycar Racing is one of those games that is easy to pick up, play and generally fart around with (I still spend hours driving the wrong way around the track so that I can watch the self-



inflicted pile-ups on the instant replay!). But if you've got the interest and patience, this game can be extremely complex. As such it is a very entertaining game to play, whether you're serious about it or not.

NASCAR has the same approach, and, as you would expect a stock car racing game to be pretty excellent, it comes as a bit of a surprise to find that it's nowhere near as good as *Indycar*. The over-sensitive car dynamics may have something to do with it.



I built a few tracks with the track designer in *Grand Prix Unlimited* and quite enjoyed the experience. Taking to the car once again dampened my enthusiasm. Was this my track? Maybe the program is trying to play with my mind?!

Well, *NASCAR* and *Indianapolis 500* suffer from constant left-handers, which tends to induce boredom amongst less patient players.

Formula One has a lot of options that help ease the player into the higher difficulty levels – I liked the racing line guide, and, as with most here, disabling car damage increases the fun.

CONCLUSION

Formula One Grand Prix amazed me – after all this time, it's still a wonderful game to play. Geoff Crammond (now working on *F1GP 2*) got everything right first time and at current budget price I'd recommend PC racing fans everywhere to just go out and buy a copy.

Having said that, I don't consider it to be the best racing game of the current pack. For me (and this could be hotly disputed) it's got to be *Indycar*. *NASCAR*, following on from *Indycar*, could have bettered its predecessor in many ways, but it failed to do so.

NASCAR is fun, but it certainly isn't *Indycar*. So what makes *Indycar* such a dream to get into? The graphics are stupendous at high frame rates and I loved the feeling of speed you get as you push on the joystick. If you can afford it, play *Indycar* on a P60 with a Thrustmaster T1 steering wheel – nothing comes close! *F1GP* is ideal for slower machines, whereas *Indycar* is one for the big boys.

Commendable runner-up was *NASCAR Racing*. The tricky-to-handle car dynamics played havoc with my reverse parking, so I had to leave the car on the side of the road.

Indianapolis 500 should still stir the loins of the uninitiated PC racing fan, but the more savvy amongst us will no doubt give it a wide berth. *Grand Prix Unlimited*? Don't make me laugh...

Racing Simulations

Indycar Racing	93%
Formula One Grand Prix	92%
NASCAR Racing	89%
Indianapolis 500	79%
Grand Prix Unlimited	47%

POWER A-Z



**ISSUE 1
JANUARY
1994**

Alien Breed

Team 17: Shoot-'em-up (77%)
Fast moving and enjoyable overhead alien blaster.

Archer Maclean's Pool

Virgin: Sports (90%) Platinum award
The ultimate pool game from a true master.

Indycar Racing

Virgin: Driving (92%) Platinum award
Legendary, thrilling and almost as good as F1GP. A stunner, but a bit dated now.

Innocent Until Caught

Psygnosis: Adventure (82%)
Half decent point and click Sci-Fi affair.

Jurassic Park

Ocean: Adventure (65%)
Boring and jerky film conversion.

Lilith Devil

Gremlin: Adventure/puzzle (91%)
Platinum award
Glorious Dragon's Lair type romp which tickled our fancy.

Magic Boy

Empire: Puzzle/platform (79%)
Enjoyable but short-lived puzzle game for kids.

Microcosm

Psygnosis: Shoot-'em-up (76%)
If only the gameplay matched the ground-breaking visuals.

Nick Faldo's Golf

Grandslam: Sports (80%)
One of the best golf games on the PC at the moment.

Rally

Europress Software: Driving (78%)
A serious attempt to convert very difficult subject matter. Not bad.

Shadow Caster

Origin/EA: Adventure (75%)
Great graphics, but not a good Doom clone and a poor RPG.

Speed Racer

Accolade: Driving (30%)
Useless pile of cartoon cack.

Striker

Elite: Sports (42%)
Shoddy shadow of the console version. Stick with FIFA.

Subwar 2050

MicroProse: Simulation (88%)
The best attempt at a sub game so far and it's actually fun to play tool

Companions of Xanth

Accolade: RPG (80%)
Well drawn RPG with good characterisation and neat plot twists.

Flight Sim Toolkit

Domark: Construction kit (81%)
Remarkably in-depth and sometimes daunting kit which is nonetheless perfect for all serious flight sim fans.

Fury of the Furries

Mindscape: Puzzle (79%)
Fun and mildly amusing game in the Lemmings mould. Nice intros.

Goblins 3

Sierra: Puzzle (70%)
Simple and often engrossing puzzle game lacking in the magic of its predecessors.

Hand of Fate: Legend of Kyrandia II

Virgin: Adventure (89%)
One of the better (older) adventures, now replaced by the excellent ptIII.

Hired Guns

Psygnosis: RPG (81%)
Decent enough futuristic Dungeon Master replicant.

Jack the Ripper

Mirage: Adventure (32%)
Intriguing plot, but bugger all else. A dog, even if you've read 'The Final Solution'.

Leisure Suit Larry 6

Sierra: Adventure (75%)
Colourful and funny point 'n click adventure, but there are many better out there.

Masters of Orion

MicroProse: Strategy (70%)
A massive and involved space strategy game with lots of possibilities.

Rebel Assault CD

US Gold: Shoot-'em-up (91%)
Platinum award
Action-packed Star Wars game which looks and plays like a dream.

Ryder Cup Golf

Ocean: Sports (84%)
Well presented and reasonably priced all-round golf game.

Sam and Max

US Gold: Adventure (83%)
Fantastically funny LucasArts adventure like Day of the Tentacle. Top.

Sid & Al's Incredible Toons

Sierra: Puzzle (79%)
Crazy puzzle game with zany characters and tons of challenge.

Silverball

Team 17: Simulation (65%)
Poorly designed pinball game which isn't as good as Dreams or Fantasies.

Spellcasting Party Pak

Accolade: Adventure (80%)
Three saucy text adventure games including naked pics of nubile girls. Great!



**ISSUE 3
MARCH
1994**

Campaign II

Empire: Strategy/war (84%)
One of the most difficult and in-depth battle simulations ever devised. If you like 'em, get it.

Gabriel Knight

Sierra: Adventure (89%)
Atmospheric and brutal New Orleans cop drama that is something special.

Lawnmower Man CD

Sales Curve: Adventure (86%)
A half decent multi game conversion of the two film scripts.

Operation Desert Storm

Digital Integration: Sim (81%)
Well programmed and comprehensive tank game.

Pinball Fantasies

21st Century: Sim (80%)
The sequel to Pinball Dreams, with four new tables and some corking new effects and whistles.

Police Quest: Open Season

Sierra: Adventure (72%)
A good attempt at an interactive cop movie that is too restricted and contains very little action.

Premier Manager 2

Gremlin: Sports (88%)
The best football management game

Leisure Suit Larry 6



**ISSUE 4
APRIL
1994**

Archon Ultra

US Gold: Puzzle (80%)
Well programmed chess-like fantasy war game which improves on Archon.

Cannon Fodder

Virgin: Shoot-'em-up (94%) Platinum award
Brutal, bloody, sadistic and damn good fun. CF is one of the best games ever!

Daemonsgate

Gametek: RPG (71%)
Able and complex RPG which goes a little too deep for most people. Serious fans only.

Evasive Action

Mindscape: Flight sim (89%)
Fly anything from bi-planes to spaceships in this excellent all-round flight sim.

Genesis

Mindscape: Adventure (88%)
Enjoyable Populous-style game which takes a while to get into, but is worth the wait.

Megarace

Mindscape: Driving (55%)
Handling in this terrible game is woeful and even the great graphics don't make this a silk purse.

Micro Machines

Codemasters: Driving (56%)
Too simplistic and childish for the PC really. A colourful game with limited long term appeal.

Mortal Kombat

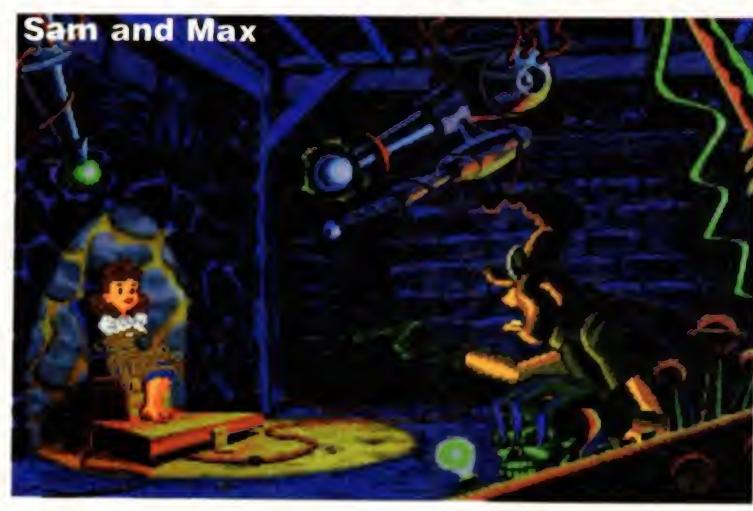
Virgin: Beat-'em-up (87%)
Still one of the best one-on-one fighting games on the PC. No blood, though.

NFL Pro League Football

Digital Integration: Sports (64%)
Another sad attempt to convert American football to the PC. Not enough off the pitch management.

Nomad

Gametek: Strategy/adventure (72%)
A space adventure which is eclipsed by Gametek's fabulous Frontier. Not that bad, but it does get repetitive.



Alone in the Dark 2

Infogrames: Adventure (82%)
Tough, but worthy sequel with even better graphics. Maze is annoying, though.

Blues Brothers, The

Titus: Platform (63%)
Simple game with very little going for it apart from a cool reputation.



**ISSUE 2
FEBRUARY
1994**

Rock 'n Roll Decades, The CD
Supervision: Multimedia (80%)
A sound attempt to create a true multimedia conversion of the *Rock 'n Roll Years*. But where's the 60s, 70s and 80s?

Sim City 2000
Maxis: Sim (94%) Platinum award
They've improved on the original with better graphics and even more statistics. One of the best.

PC POWER ISSUE 5 MAY 1994

Airforce Commander
Impressions: Strategy (52%)
This game centres on the air supremacy aspect of warfare. Good detail, but bad presentation.

Airlines
Interactivision: Strategy/sim (62%)
You are the commander of an entire airline. Why not try and cause the biggest crash? Too technical.

Award Winners
Empire: Compilation (88%)
Four great games in one. *Elite* (yeah!), *Sensible Soccer* (Yeah!), *Jimmy White's* (not bad) and *Zool* (Bleuch!). Good value.

Fantastic Dizzy
Codemasters: Platform (81%)
A fun, but too cute platform romp which will appeal to younger players. Adults beware.

Kevin Keegan's Player Manager
Imagineer: Sports (55%)
A lack of management elements and a rubbish control system on the pitch makes this a dud for our Kev.

Sabre Team
Krisalis: Strategy (90%) Platinum award
An involving and violent strategy game based on a team of SAS commandos. Highly playable.

Seawolf
EA: Strategy/sim (83%)
Definitely one of the better sub games, featuring good combat and some neat film clips.

Starlord
MicroProse: Shoot-'em-up (67%)
Good looking, but simple and repetitive space game that holds few surprises.

Star Trek 25th Anniversary
Interplay: Adventure (75%)
Trekkies will love the attention to detail but in truth this game is too short and has shabby graphics.

The Elder Scrolls: Arena
US Gold: RPG (86%)

Star Trek 25th Anniversary



An astounding first RPG from Bethesda with multiple missions and a vast long term challenge.

Who Shot Johnny Rock?
American Laser Games: Shoot-'em-up (59%)
Bad collision detection ruins what could otherwise have been a top notch coin-op conversion.

Wizard!
Psygnosis: RPG (61%)
Another *Doom* perspective RPG which adds nothing new to the genre. Combat is very poor.

PC POWER ISSUE 6 JUNE 1994

Animation Workshop (Hanna Barbera)

Empire: Multimedia (88%)
A fun paint and animation package that allows you to create your own *Scooby Doo* cartoons. Zoinks!

Blue & the Gray, The
Impressions: Strategy/war (65%)
Advanced strategy game about the American war of Independence. A bit too complicated to be enjoyable.

Carrivers at War II
EA: Strategy/sim (69%)
The depth of research in this navy sim is admirable, pity the game is slow and lacking in excitement.

Delta V
US Gold: Shoot-'em-up (91%)
Platinum award
Breath-taking graphics complement a lightning fast blasting game that shines above the rest.

Fleet Defender
MicroProse: Sim (85%)
A solid no-nonsense carrier-based flight sim that is now overshadowed by *US Navy Fighters*.

Hell Cab
Time Warner: Adventure (80%)
A strange time travelling adventure which drops you off in hell and New York. What's the difference?

In Extremis
US Gold: RPG/adventure (85%)
Doom inspired space adventure with tons of atmosphere. *System Shock* is better, though.

Myst
EA: Adventure (91%) Platinum award
A haunting and beautiful SVGA graphic adventure. One of the best on the PC.

Ravenloft
US Gold: RPG (70%)
One for dedicated AD&D fans only.

UFO



Well presented, but nothing special.

Red Hell
Cyberdreams: Adventure (67%)
Cool name, but a duff game from the producers of the excellent *Dark Seed*. Acting is terrible.

UFO: Enemy Unknown
MicroProse: Adventure/RPG (86%)
You are the head of XComm and your mission is to uncover and eliminate any alien invaders. Simply an excellent game.

Ultima VIII
EA: RPG (82%)
The master of the genre is back with another stunner. Not the best of the series.

Wolfenstein 3-D
ID Software: Shoot-'em-up (85%)
The prequel to *Doom* and crammed full of gore, Nazis and stupid hats. A good blast, but *Doom* is better.

PC POWER ISSUE 7 JULY 1994

Aegis: Guardian of the Fleet

Time Warner: Sim (80%)
Competent and remarkably complex navy sim which unfortunately doesn't utilise the CD's vast storage space.

Brutal Football
Millennium: Sports (53%)
Another tosh American football game. Why do they bother?

Corridor 7
Gametek: Shoot-'em-up (70%)
Better graphics than *Doom* but nowhere near the playability.

Detroit
Impressions: Sim (72%)
Highly original simulation about the car business in the USA. Comprehensive, but soon gets repetitive.

Dragon's Lair CD
Elite: Adventure (70%)
The old classic laser disk game pops up again. Great graphics but an annoying control method.

Empire Soccer '94
Empire: Sports (85%)
Second only to *FIFA* as the best and most accurate football game.

European Champions
Ocean: Sports (69%)
An uninspiring footy game with base graphics and nothing special up its sleeve.

The Horde
US Gold: Adventure (85%)
Quirky seems to be the general consensus of opinion on this one. A good mix of action and adventure.

Pacific Strike
EA: Flight sim (90%) Platinum award
An amazing WW2 sim that has astounding graphics and plays well too. A top buy.

Sam & Max CD
US Gold: Adventure (83%)
A classic point & click adventure now on CD. One of the best and nearing *Day of the Tentacle* territory.

Space Hulk CD
EA: Strategy/adventure (90%)
An excellent example of a claustrophobic maze adventure that really works. Fun for all the family.

Spaceship Warlock CD
UBI Soft: Adventure (67%)
A Blade Runner rip-off with some of the worst acting we've ever seen.

Summer/Winter Challenge
Accolade: Sports (72%)
A dire and jerky Olympic sim with minimal playability. The two games on offer show their age badly.

PC POWER ISSUE 8 AUGUST 1994

AI Qadim

US Gold: Adventure (84%)
A thoroughly enjoyable and very pretty adventure in a world of magic and mystery. Puzzles are weak, though.

Companions of Xanth CD
Accolade: RPG (82%)
Sad acting and the worst puns we've ever seen, but nonetheless a good solid RPG.

Cool Spot
Virgin: Platform (81%)
Cartoony platform game which is fairly playable, but repetitive. Dave Perry's early work.

D-Day
Impressions: Strategy (65%)
Accurate, but too complex and slow rendition of the events in Normandy.

Lilith Civil CD
Gremlin: Puzzle/adventure (79%)
Funny and pretty graphic adventure in the *Dragon's Lair* mould.

Lost Files of Sherlock Holmes CD
EA: Adventure (60%)
Wish they had been...

Overlord
Virgin: Flight sim (80%)
One of the most impressive WW2 games out. Good graphics are complemented by a top notch flight engine.

Pinball Dreams 2
21st Century: Sim (79%)
Four new tables and more pinballing

than you can handle. If you hate pinball, this won't convert you however.

Robinson's Requiem

Daze Marketing: RPG (51%)

A visually stunning Sci-Fi adventure lacking in the gameplay department.

Simon the Sorcerer CD

Adventuresoft: Adventure (94%)

Platinum award

A cutesy style point & click adventure with a good line in humour. Chris Barrie does the voice over.

Theme Park

EA: Sim (89%)

Brilliantly playable and funny theme park builder with a nice rendered intro for the kids.

Wargame Construction Set II: Tanks

US Gold: Strategy (48%)

Incredibly bland and boring tank game with no redeeming features.

World Cup USA '94

US Gold: Sports (88%)

Despite the crap licence, this is a well programmed and slickly presented footy game with style.

Zool 2

Gremlin: Platform (80%)

Colourful and cartoony platform game with limited appeal for serious players. Not bad.

1942 Pacific Air War

MicroProse: Flight sim (94%)

Platinum award

Without doubt the best WW2 flight sim around. Great graphics, realistic gameplay and tons of missions.

PC POWER

ISSUE 9 SEPTEMBER 1994

Beneath a Steel Sky CD

Virgin: Adventure (88%)

Evocative and atmospheric *Blade Runner*-esque adventure. Great character development and art by Dave Gibbons.

FIFA Soccer

EA: Sports (86%)

A top notch conversion of the console hit. Extraordinarily clear graphics and full voice commentary.

Grandest Fleet, The

Millennium: Strategy (79%)

Bare bones strategy game where you command a fleet of ships. Two player is good, though.

Harpoon II

Accolade: Sim (70%)

For seasoned navy warfare veterans only. Highly detailed and involved sim that arcade freaks will hate.

Isle of the Dead

Merit Software: Adventure/beat-'em-up (76%)

A very basic looking Friday the 13th horror film with *Doom*-esque action sequences.

Outpost CD

Sierra: Sim (86%)

A highly enjoyable and playable *Populous*-type game in space.

Privateer CD

EA: Shoot-'em-up/strategy (59%)

Dated and pale imitation of WC3 that doesn't improve now that it's on CD.

Shadow of the Comet CD

Infogrames: Adventure (68%)

Not a bad adaptation of the HP Lovecraft tale, remarkable because you get a free mouse mat.



Soccer Kid

Krisalis: Platform (79%)

Dated and repetitive platform game where you control a kid who uses a football as a weapon.

TIE Fighter

Virgin: Shoot-'em-up (95%) Platinum award

The best blasting game so far on the PC. True to the films, fast, frantic and with amazing 3-D graphics.

PC POWER

ISSUE 10 OCTOBER 1994

Battle Bugs

Sierra: Sim/strategy (85%)

An unusual blend of fighting and planning in the ant world. Worth a look as competition to *Sim Ant*.

Dark Legions

US Gold: RPG/strategy (73%)

Quite fun, but too expensive and simple mystical strategy game. There are plenty of others.

Desert Strike

Gremlin: Shoot-'em-up (85%)

The game that sold a million is finally on the PC and it ain't half bad. Isometric chopper game.

Heimdal 2

Core: Adventure (82%)

Abandoning the original format, this is a colourful isometric adventure which is fun to play right to the end.

Ishar 3

Daze Marketing: RPG (76%)

A good intro to RPGs, this is the latest in the Ishar series, but it isn't quite as good as *Elder Scrolls*.

King's Quest CD

Sierra: Adventure (85%)

A compilation of the KQ series which is both good value and absorbing. A must for fans.

Manchester United PLC

Krisalis: Sports (80%)

Another attempt to beat *Sensible Soccer*. Poor graphics and sound ruin it.

Pinball Dreams Deluxe CD

21st Century: Sim (70%)

A good buy if you haven't got the original, this features 3-D table intros and terrific music.

Planet Soccer

Infogrames: Sports (52%)

A brave attempt to marry good graphics with wild camera angles. It fails on the playability front.

Psychotron CD

Merit Software: Adventure (65%)

Sad attempt at an early interactive movie. As usual the acting is B-

originally, it's crap and no-one should buy it.

Return to Ringworld CD

Time Warner: Adventure (68%)

A fair game on the CD, but it could have been so much better if the game design was improved.

Star Crusader CD

Gametek: Shoot-'em-up (81%)

When you're dealing with space shoot-'em-ups you better be good. This isn't as fun as *Inferno* or *TIE Fighter*.

Ultimate Domain CD

Mindscape: Strategy (88%)

A polished and playable *Populous* clone that captivates and enthrals. That means it's good, by the way.



ISSUE 12 DECEMBER 1994

Aces of the Deep

Sierra: Simulation (80%)

Well rounded and playable WW2 U-boat sim from Dynamix.

Alien Legacy

Sierra: Strategy (68%)

Too structured and not as good as *Outpost*.

Alone In the Dark 2 CD

Infogrames: Adventure (89%)

Controversial but ultimately better sequel to *Alone in the Dark*.

Bloodnet CD

MicroProse: Adventure (81%)

Vampire terror and plenty of moody stills, but a convoluted plot.

Colonisation

MicroProse: Simulation (90%)

Platinum award.

Fabulous sequel to *Civilisation* and another hit for Sid Meier. Underrated at the time, but I love it!

Dark Sun: Wake of the Ravager CD

Mindscape: RPG (85%)

One of the best AD&D games on the market today. Plenty of adventure and dark dungeons to explore.

Ecstatica CD

Pygnoxis: Adventure (87%)

Stunning graphics, but slow, jerky and a bit difficult to play sometimes. Still a ground-breaker, though.

Klik & Play

Europress Software: Utility (90%)

Platinum award.

Write your own games with this excellent Windows game creator. Great fun if you have the time.

Little Big Adventure CD

Electronic Arts: Adventure (95%)

Platinum award.

Breath taking French isometric





adventure which is quite simply the best on the PC today. Get it now you fool!

Lords of the Realm

Impressions: Simulation (84%)
Be lord of the manor with this medieval sheep-fest – doesn't include a torture peasants option, though.

Magic Carpet CD

Electronic Arts: Shoot-'em-up (92%)
Platinum award
Smooth and unbelievably slick carpet blaster that turns convention on its head.

Micro Machines

Codemasters: Driving (61%)
Legendary overhead racing game with terrific two player mode, but boring singularly. Could've been a contender.

Microsoft Space Sim

Microsoft: Simulation (80%)
Technically accurate, but sometimes plodding and laborious. Good missions and spacecraft but for enthusiasts only.

Novastorm CD

Psynopsis: Shoot-'em-up (78%)
Pretty visuals, but a standard action game that wouldn't look out of place on the Mega-CD.

Quarantine CD

Gametek: Shoot-'em-up (86%)
Basically *Doom* in a taxi and none the worse for that. Action packed and wrapped in Cyberpunk graphics.

System Shock CD

Electronic Arts: Adventure (94%)
Platinum award
I don't agree with the old PC Power rating, so here's a new one. Classic claustrophobic Alien-esque space adventure. Unmissable!

Transport Tycoon

MicroProse: Simulation (90%)
Platinum award
Railroad Tycoon is but a memory as this superb sim blows it away. Well worth the money.

US Navy Fighters CD

Electronic Arts: Simulation (96%)
Platinum award
The best modern day flight sim around. Hot SVGA graphics, but jerky on anything lower than a Pentium.

Warcraft

Interplay: Strategy (78%)
Bare bones AD&D war game with some in-depth manoeuvres and functional graphics.



Armoured Fist

US Gold: Simulation (84%)
Basically just *Commando* on the ground, but the in game graphics aren't half as nice as the intro ones.

Creature Shock

Virgin: Shoot-'em-up (79%)
A game for late nights, boot it up and get lost in the catacombs with loads of psychotic aliens.

Cyberwar

SCI: Strategy/Shoot-'em-up (65%)
Loads of fancy graphics in the *Lawnmower Man* vein, but not a lot of fun to play.

Dawn Patrol

Empire: Simulation (81%)
Styled like an interactive novel, this game is a realistic portrayal of WWI air battles. SVGA is fabbo, but it is very tough.

Dragon Lore

Mindscape: Adventure (88%)
Fascinating and well scripted adventure game with more lush pics than Liz Hurley.

EarthSeige

Sierra: Shoot-'em-up (72%)
Big robots, big guns, not big fun.

Kyandria III CD

Virgin: Adventure (70%)
A highly visual and taxing game, but Dino didn't seem to like it.

Lode Runner

Sierra: Platform/puzzle (86%)
The C64 classic returns for some nifty platform action that just doesn't date. Still a good laugh.

NASCAR Racing

Virgin: Driving (85%)
Almost identical to *Indycar*, *NASCAR* looks amazing (esp in SVGA for those that can afford it) but is too hard to play.

Noctropolis CD

Electronic Arts: Adventure (83%)
A full-on gothic vampire tale with ship-loads of dusky maidens and plenty of blood-sucking. Our kind of game!

Rally Championship

Flair: Driving (84%)
Powerdrive pretender to the throne with plenty of good graphics and an adequate game engine.

TRANSPORT TYCOON



Retribution

Gremlin Interactive: Shoot-'em-up (80%)
Nothing really out of place here, but it is a little too simplistic for sustained play.

Under a Killing Moon CD

US Gold: Adventure (90%) Platinum award
Totally interactive Philip Marlow-type adventure with tons of moody settings. Some hate it, most love it.

Universe

Core Design: Adventure (68%)
Not bad looking Sci-Fi sleuth-'em-up with some nice touches, but not enough of them.

Virtuoso CD

Elite: Shoot-'em-up (52%)
Pale and insignificant Doom clone which has a rock star as a central character. Weak.

Zork Anthology CD

Activision: RPG (80%)
Four classic text only adventure games from yesteryear. Good value if you don't mind a CD with no pics on it. Cheap, though.

PC POWER

ISSUE 14 FEBRUARY 1995

Aladdin

Virgin: Platform (71%)
Glitz Disney platform game of the film. Not bad, but not suited to the PC. For the kids.

Alien Logic CD

Mindscape: Adventure/RPG (80%)
A good RPG that will appeal to many people, especially those who've grown tired of AD&D games.

Cannon Fodder 2

Virgin: Shoot-'em-up (80%)
Still the same old blood 'n guts, but this time with even more all-new levels. Not that big an improvement, unfortunately.

Commander Blood CD

Mindscape: Adventure (86%)
An intriguing sequel to the ancient *Captain Blood* (with music by Jean Michelle Jarre don't y'know).

Football Pro '95

Sierra: Sports (78%)
Yet another tosh American Football game. Yawn.

Frankenstein

Merit Studios: Platform (45%)
Childish pile of tosh that shouldn't have ever been converted.

Freddy Pharkas CD

Sierra: Adventure (78%)
A fair update of the floppy game

which has an entirely new soundtrack and full speech added.

Hell CD

Gametek: Adventure (92%)
Dark and bloody 18 rated adventure that seems quite good. Need a Pentium, though.

Journeyman Project Turbo CD

US Gold: Adventure (64%)
CD update of the ageing adventure game from Presto.

King's Quest VII CD

Sierra: Adventure (92%) Platinum award

An interactive fairy tale which is perfect for all ages and talents. Top.

Lion King

Virgin: Platform (84%)
More Disney related japes in this okay-ish conversion of the console hit.

Menzoberranzan CD

Mindscape: RPG (86%)
A truly inspirational and evocative adventure game with fab graphics and effects.

On the Ball: World Cup Edition

Daze Marketing: Sports (79%)
A footy management game with few frills.

Panzer General CD

Mindscape: Strategy (83%)
Unusually this is a very easy game to play and perfect for beginners. It's about tanks by the way.

PowerDrive

US Gold: Driving (70%)
A poor attempt to convert rallying to the PC. Terrible controls and it's too hard.

Project X

Team 17: Shoot-'em-up (80%)
A standard shoot-'em-up with little plot and the same old Amiga looking sprites.

Shadows of Darkness CD

Sierra: Adventure (86%)
The CD version of the adventure game has loads of great new voices from Hollywood.

Sim City 2000 CD

Maxis: Sim (94%) Platinum award
The CD version of this classic has the Great Disasters disk included and is quite simply brilliant.

Voyeur CD

Interplay: Adventure (70%)
Sad attempt at an interactive movie with some saucy bits. Can't wait for the hard core version.

Wing Commander III CD

EA: Shoot-'em-up/adventure (95%) Platinum award
The epic mini movie is on four CDs and is the WC fan's nirvana. Simply brilliant!



HIGHEST RATED GAME

US Navy Fighters – 96%

Issue 12

LOWEST RATED GAME

Jack the Ripper – 32%

Issue 2



All New World of Lemmings

Psynopsis: Strategy (79%)
New and improved with SVGA visuals and new skills, but you can't beat the simplicity of the original.

The Butt Stops Here!

Everyone – and I mean everyone – wants to know what it's like to be the editor of a PC leisure magazine.

You can see their eyes light up as they enthuse about free trips, complementary copies of games, business lunches and blatant bribes, but really that's only half the story... well three quarters, OK maybe fifteen sixteenths.

I took over PC POWER for one reason and one reason alone – it's the future. Consoles are all very well, and I still have my Super NES for playing *Super Mario Kart*, *SFII* and *Bomberman* because they will always be good games. But for the really cutting edge stuff, you have to own a PC, and if you do, then you should be reading PC POWER.

Why? Well, in many ways I'm in the same boat as you. As a relative novice to the PC world, I'm still learning the ropes and so every feature in PC POWER is just as relevant to me as it is you. Total PC, this month's guide to upgrading, is a broad look at all possible options, and we will be going into far more detail in subsequent issues. Also, the superb 'What CD-ROM drive to buy and how to fit it?' feature was instrumental in me obtaining my own CD system and so I know you will refer to it when you are thinking of converting to CD-ROM.

The way I see it, everything that interests me is going to appeal to all PC Power readers and that means more features on what the PC can do, examinations of the future of gaming, new products, huge exposés on the latest games, interviews with software houses, and of course gratuitous pictures of *Dark Forces* and iD's latest game, *Quake*!

If you are a regular reader of PC POWER then you will have noticed a slight change in design and editorial policy. Okay, I'll admit it – it's totally different! The reason for this is that I want to make PC POWER leaner and fitter for '95 and beyond. There is now a large hardware review and testing section at the back of the magazine; designed specifically to cover all new products outside of mainstream games, and we've also included a complete games A-Z, and an extensive hardware reference guide if you are ever in the market for add-ons or even a whole new PC.



We will also be performing group tests on selected items of interest every month; combining a long term test with comparisons of like products. This issue, for example, it's 3-D modellers and ray tracers, but future features will include speakers, sound cards, controllers and emulators.

Games are still PC POWER's staple diet though, and this issue we have managed to cram in 15 of the little beauties including *Wings of Glory*, *TIE Fighter: Defender of the Empire* mission disk, *Alone in the Dark 3* and *Ka-50 Hokum*. Regular readers need not despair, games will always take up the majority of the magazine. I hope you like the new brighter and more information intensive reviews; why not write and tell me what you think?

From next issue, The Butt Stops Here will be the bit where I can whinge or praise all I want, but I just wanted to take this opportunity to announce the changes and my intentions and assure you that from now on PC POWER will only get better!

Before I go, PC POWER's letters section has been held back this issue, but I want you to tell me exactly what you think of the new look issue (good and bad), what your opinions on the state of PC games are (too many *Doom* games, tosh interactive adventures etc), and anything vaguely PC related and controversial that you want to shout about. All letters are read and The Word will be back in force next issue.

All that's left for me to do is say welcome to PC POWER, hope you enjoy all our hard work, and I'll see you next issue.

Oh, in answer to the question about being an editor of a PC mag... it's bloody marvellous!

Damian Butt

PS: If anyone wants to nick my car again, I've wired up the driver's seat and steering wheel to the mains. I look forward to barbecuing marshmallows on your still twitching corpse! Have a nice day.

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ACTION REPLAY

FREEZE POWER!

JUST IMAGINE THE POWER TO FREEZE ANY PROGRAM AT THE PRESS OF A BUTTON



Manipulate the frozen program and create special effects within games such as infinite lives, unlimited energy, special moves etc. Grab pictures, Music, hack programs and more!

INFINITE CHEAT GENERATOR

Action Replay now has FOUR powerful CHEAT FINDER modes that actually scan through the game in its FROZEN STATE and finds the locations that control lives, ammo, objects etc. etc. The unique CHEAT GENERATOR then gives you a cheat code for that game. Simply press a key to restart the game and you are invincible! Cheats can be saved to disk or entered again at a later date. Loads of ready made cheats are also supplied on disk. Very powerful - even CD titles.

PROGRAM SAVE

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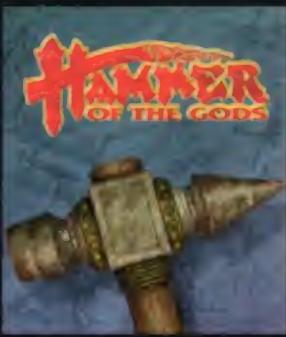
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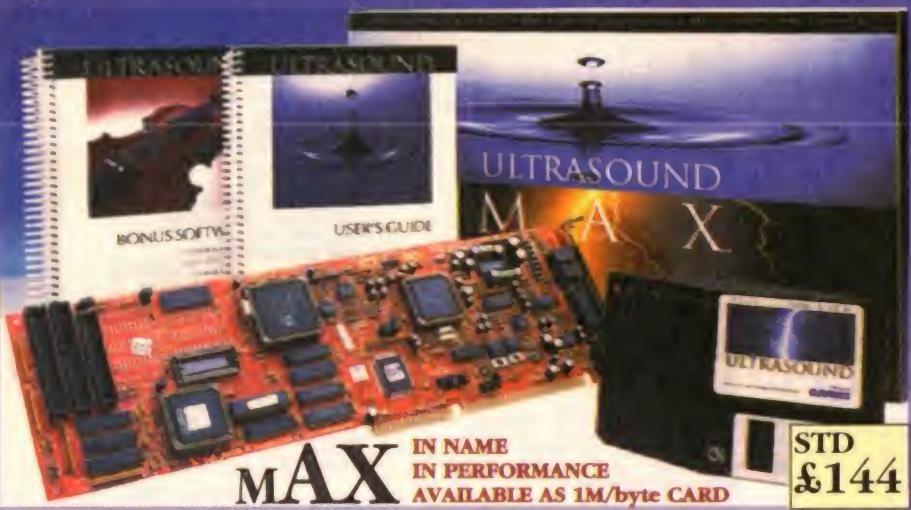
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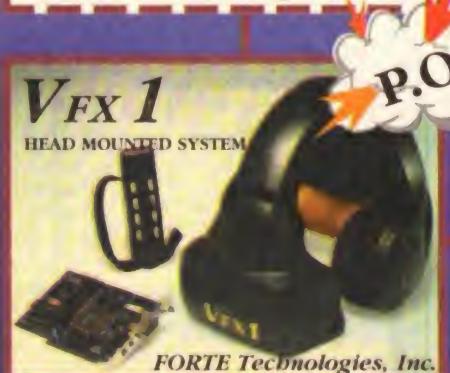


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OPERATION BODY COUNT (2) - New Wolfenstein type game.

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F18 NO FLY ZONE - Good fast new air combat game for Windows.

QUATRA COMMAND - Fantastic Windows space shoot 'em up.

JAZZ JACK RABBIT (2) - New from Epic. Huge ratings in all main mags. Like Sega's Sonic.

ONE MUST FALL (2) - Superb robot fighting game excellent gameplay - Epic Megagames.

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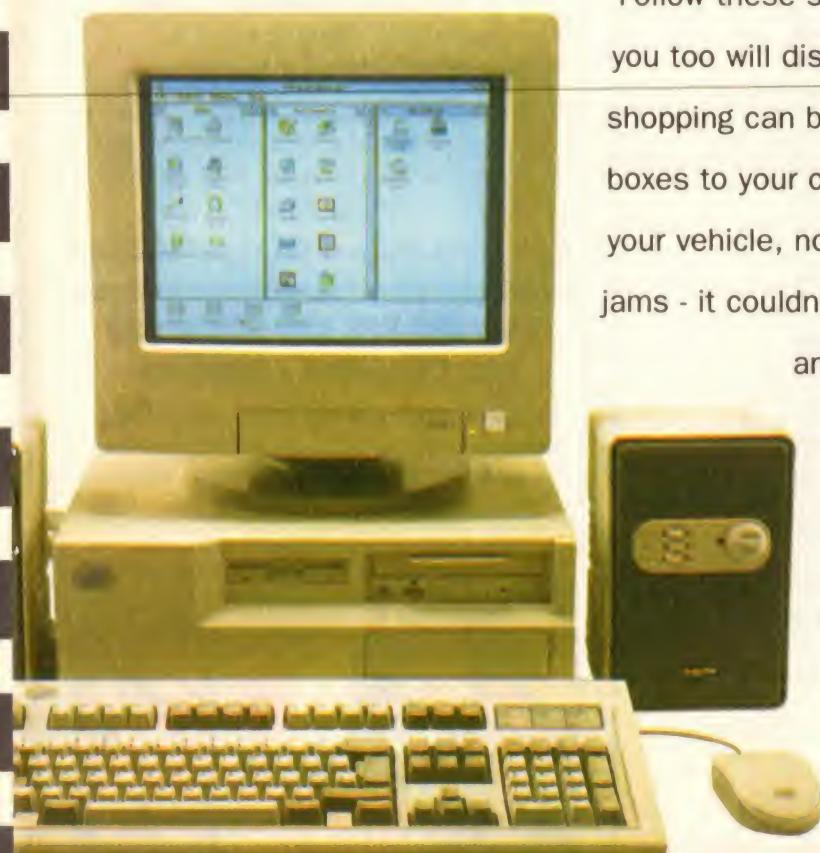
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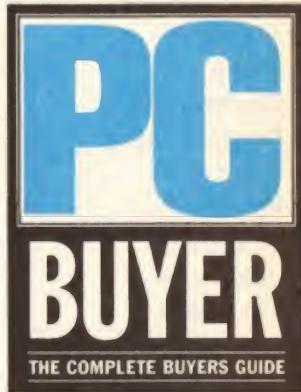
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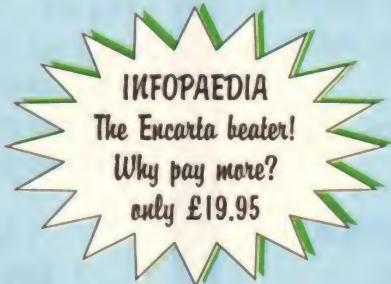
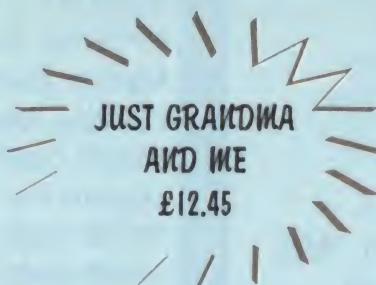
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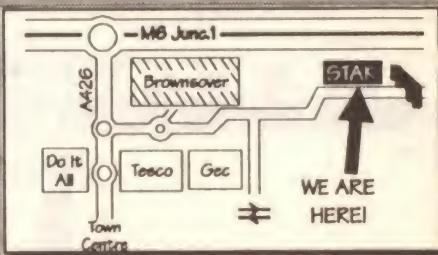
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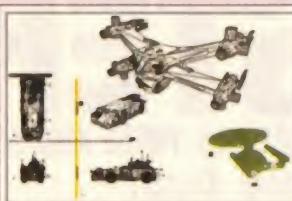


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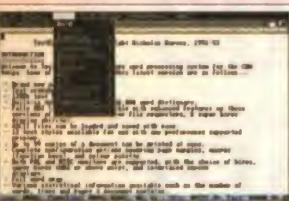
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